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AUTHOR	Mithaug, Dennis E.
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ABSTRACT

Presented is the final report of a project to increase academic performance and social interaction in 52 retarded or normal children (3-18 years old) through training teachers in the use of three social skills: exchange, competition, and cooperation. The following project objectives are discussed: operational identification of the three social patterns; isolation of conditions that produce the patterns; development of exchange, cooperation, and competition skills within the context of academic tasks; and development of findings into a program to increase academic performance and improve social behavior. Described in the section on methodology are the basic research phase, a developmental research phase, and the applied research phase. Discussed are project findings including: 1) operational conceptualizations of the three social patterns, social contingencies, and related feedback behaviors; 2) motivational effects of exchange, cooperative, and competitive contingencies; 3) reinforcing effects of social feedback on task performance; 4) the effects of antecedent task conditions and consequent social contingencies in the development of cooperative and competitive behavior in retarded children; and 5) the effects of assessing social interaction deficits in retarded children by monitoring rates of social interaction. The project is reported to have resulted in the following products: an instrumentation system for comparing the three social contingencies of the three social patterns; a word discrimination program which uses social contingencies to develop both social interaction and word identification skills in retarded children; a set of procedures for assessing social interaction deficits in classrooms for the retarded; and a program for establishing motivational control, remediating social deficits, and developing social skills in retarded children. More than half of the report consists of Appendices. (DB)

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Final Report
Project No. 572305
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A PROJECT FOR DEVELOPING PROGRAMS TO UTILIZE SOCIAL PROCESSES TO INCREASE ACADEMIC PERFORMANCE OF HANDICAPPED CHILDREN AND TO TRAIN TEACHERS OF THE HANDICAPPED IN THE SYSTEMATIC USE OF SOCIAL PROCESSES FOR EDUCATIONAL OBJECTIVES

Dr. Norris G. Haring, Project Director
Dr. Dennis E. Mithaug, Principal Investigator

Experimental Education Unit
Child Development and Mental Retardation Center
University of Washington

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D.E.M.

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I. Introductory Section

A. Project Summary

When a child's socialization is disrupted at any point during his early development, he may fail to learn to interact appropriately: to exchange, compete, and cooperate under appropriate social conditions. The resultant diagnosis may be social or emotional retardation.

This project is designed to investigate the conditions that produce the social patterns that are requisites for group participation: exchange, cooperation, and competition. The objectives are: 1) to identify operationally exchange, cooperation, and competition; 2) to isolate the conditions that produce the patterns; 3) to develop exchange, cooperation, and competition on academic tasks; 4) to apply research findings to increase academic performance; and 5) to organize findings into a program that will assist teachers to achieve social behavior objectives in their classrooms.

The procedures employed to achieve these objectives include: 1) a basic research phase designed to measure the three social patterns and to identify the feedback conditions and social contingencies that affect exchange, cooperation, and competition in two-person groups; 2) a developmental research phase designed to develop the three social patterns as students work on academic tasks; 3) an applied research phase designed to measure social interaction deficits in the classroom, and to employ social contingencies to produce social interactions and increase academic performance.

The findings resulting from the three research phases include: 1) operational conceptualizations of the three social patterns, social contingencies, and related feedback behaviors; 2) motivational effects of exchange, cooperative, and competitive contingencies; 3) reinforcing effects of social feedback on task performance; 4) the effects of antecedent task conditions and consequent social contingencies in the development of cooperative and competitive behavior in retarded children; and 5) the effects of assessing social interaction deficits in retarded children by monitoring and recording their rates of initiating and receiving both verbal and physical contacts with specified peers and teachers.

The products resulting from the three research phases include: 1) an instrumentation system for investigating the effects of different social contingencies on exchange, cooperative, competitive behaviors, and the related feedback responses; 2) an instrumentation system for investigating and developing exchange, cooperative, and competitive choices of students working on an academic task; 3) an elementary word discrimination program designed for use with social contingencies to develop social interactions in retarded children as they learn to identify and discriminate three and four letter words; 4) a set of procedures for assessing social interaction deficits in classrooms for the retarded; and 5) a program for establishing motivational control, assessing and remediating social deficits, and developing social skills in retarded children.

B. Introduction

1. Statement of the Problem

A child's social development is dependent upon the socialization he experiences in the family, school, and peer group. In the family, the parents dominate, the child being wholly dependent upon them for nurturance, protection, and support. In the school, the position of dominance and authority is occupied again by an adult. The teacher administers the rewards or punishments, while the student, ideally, learns the skills and behaviors expected of him. Only when he enters into the world of his peers is the child on an equal footing with others The peer group is adult society in miniature with the requisites and the consequences of a full-blown social system. Here, the dynamics of social life, the give and take and no holds barred of the unsupervised world reign freely. The child learns patterns of social interaction in the informal group, where one is rewarded and punished for behavior that conforms to unwritten rules or norms that continually change as interaction changes from intense competition for a particular role in a group's task structure to exchanges of role performance for social approval between group members and, finally, to cooperative interaction as roles become coordinated on a common task and organized effort on that task is achieved.

Some children never learn to exchange, compete, or cooperate. Consequently, their adaptations to group life are unsuccessful. For instance, if the child's socialization is disrupted in the family, peer group, or school, and he cannot exchange, compete, or cooperate when appropriate, he may be diagnosed as socially and emotionally retarded or maladjusted.

Children are also diagnosed as socially maladjusted when they fail to come under control of the adult advisor in an institutional setting. In such cases, a child may have social behaviors in his response repertoire which are not directed towards institutional goals. This is particularly the case when members of rebellious peer groups are expelled from schools because they disrupt classroom procedures. They too are socially maladjusted and, consequently, uneducable. Whether the child is a social isolate lacking in skills requisite to normal interaction, or is a member of a disruptive and uncontrollable peer group, the problem of remedial education for the socially handicapped remains.

2. Analysis of the Problem

The socially deficient child is an example our socializing agents' failures to teach the child the interaction patterns appropriate in different social situations. Group functions require member participants to compete for positions, exchange favors, and coordinate efforts on commonly valued tasks. This group socialization is a significant component in the equation that spells success or failure of the child's social adjustments in informal social systems such as the peer group and formal social systems such as the classroom.

a. Group Socialization

The human group is a special case of the more general term, the social system. Defined as an interaction of parts to promote a common purpose, task, or goal, the system provides a focal point for further analysis of fundamental processes characterizing system interactions at different points in time. Are the interacting parts in the system competing, or are they exchanging valued goods in a manner that promotes a coordination of efforts and furthers the common purpose of the group? Furthermore, do interaction patterns within the social grouping follow discernible sequences? What are these sequences, and what role do they play in the overall functions of the social system?

The emergence of the social system, or social group, depends upon the common task of would-be participants. People interested in the same task come together to interact on the common effort. The pattern of interaction that intially emerges in newly forming groups frequently is competitive. Group members compete to offer the best solution to the group problem. They demonstrate to each other what each can contribute to further the group's efforts. As competition progresses members providing the best solution to the group problem and demonstrating the most valuable abilities are selected to perform in specialized roles. Charles Horton Cooley suggested that the basic function of competition was the sorting out of who is to do what, or to play what role:

> "The function of personal competition, considered as a part of the social system, is to assign to each individual his place in that system. If 'all the word is a stage,' this is the process that distributes the parts among the players. It may do it well or ill, but after some fashion it does it. Some may be cast in parts unsuited to them; good actors may be discharged, and the play goes on." (Borgatta and Meyer, 1956).

After group members are differentiated into their respected roles, the problem of motivating each to perform his role requirements arises. What kinds of incentives are necessary to insure adequate role performance? Here, competitive patterns give way to exchanges as social approval, praise, deference, monetary rewards, and other material benefits are offered in return for role performance. As exchange patterns develop, an organization of actions on the common task also emerges. Exchanges between members promote the role organization necessary for task achievement. In short, intrapersonal exchanges promote the development of complex cooperative forms. The total sequence is summarized below:

Preference for a common task provides the basis for interaction, the consequence being the emergence of a social system. --> Competition ensues as members demonstrate their abilities vis-a-vis the group task at hand. --> As members are sorted into different roles, all of which are related to the task, exchanges provide incentives to perform in these roles. --> When each is performing his role adequately and the roles are directed towards a common task cooperation has emerged.

b. Consequences of Group Socialization

Group socialization means growth and development of individuals interacting with each other on common tasks. When a group develops within a larger system, such as the classroom, further development and elaboration results with each system benefiting from the interaction. Peer groups whose goals are in line with the teacher's in an instructional setting exemplify the benefits accruing to both systems. The classroom becomes an effective learning environment for the peer member, who receives support from friends as well as teachers for academic work successfully completed. This preferred arrangement of peer and classroom systems is not observed as frequently as it might, however. In some instances, the two systems are at odds with each other, frequently resulting in the dissolution of the peer group or the disruption of classroom organization. In other instances, emerging peer groups do not include all pupils in the class. Learning to exchange, compete, and cooperate, occurs early in childhood and continues as long as one participates in group life. Deficits in any area may have profound effects on one's ability to adapt to social environments unsupervised by adult-parent figures. Social isolates who fail to participate in group activities and peer members who fail to follow the rules of our larger social systems constitute a population of students classified as socially maladjusted or retarded.

An obvious consequence of social maladjustment is academic retardation. Before a child can learn his cultural heritage, he must interact with others, who transmit to him their own experiences and the knowledge acquired by previous generations. The child who does not participate in this teacher-pupil exchange pattern fails to acquire knowledge needed for adequate adaptation to the physical and social world. As others acquire that knowledge and task activities of group members become more complex, requiring more complex skills of participants, the possibilities for the maladjusted interacting with others on common tasks decreases proportionately. This vicious cycle continues with complete institutionalization being a frequent end result.

3. Solution to the Problem

Reversing the direction of the cycle may be possible after identifying the fundamental problem, deficits in social behavior. When a person can exchange with another, he can be educated, and when he has acquired valuable skills, he can compete for roles in social systems and, finally, cooperate with others on a common task. Developing solutions to social problems requires research that 1) operationally identifies each social process, 2) isolates the conditions that produce the three patterns, and 3) employs these findings to control social patterns and increase academic performance in educational settings.

a. Definitions of the Social Processes

Social behavior research reported in the literature describes studies of social choice and social process. The social choice investigations measure the selection of one from several alternative solutions to a problem, while the social process investigations measure the behaviors emitted by group members in order to solve a problem or complete a task.

In social choice studies, for example, the investigator frequently employs the prisoner's dilemma game to measure cooperative and competitive choices. Two subjects playing the same 2 X 2 matrix, such as the one provided below, must choose either A or B selections. The numbers in the matrix represent payoffs. If Person 1 and 2 choose A, both receive 5 reward points. By contrast, a B selection by Person 1 and an A selection by Person 2, places them in the lower left cell with Person 1 receiving 10 points and Person 2 losing 5. Mutual B choices place them in the lower right cell where they both lose 2. In such a study, mutual A selections are defined as cooperative and B selections as competitive. Usually the task instructions given the subjects are to maximize their own payoffs. (Nemeth, 1970)

TABLE 1

		Person 2	
		A	B
Person 1	A	5, 5	-5, 10
	B	10, -5,	-2, -2

Social process studies measure the cooperative or competitive responses emitted by group members in the process of completing a task or solving a problem. Occasionally, preferences for one response mode over another are measured as well. To this extent, social choice and social process studies have a common focus, with preferences for a given response mode being a dependent variable in both studies.

In one of the first social process studies (Azrin and Lindsley, 1956) a coordinated response between two children was the measure of cooperative behavior. By manipulating a cooperative contingency, a reinforcement contingent upon responses from two or more persons, the investigators increased the childrens' rates of placing their metal styluses in corresponding receiving holes within .5 seconds of each other. The reinforcer was a jelly bean contingent upon the coordinated act.

Past research on the social processes has investigated the conditions that control the rate of occurrence of exchange, cooperation, and competition. The distinguishing components of the three processes have only recently been identified with sufficient clarity to permit definitional analyses. Hake and Vukelich (1972), after reviewing the cooperation literature, were able to distinguish and classify studies according to the type of social response measured. In response sharing studies, responses from both subjects were required to reinforce both, while in response exchange studies, a response from one of the subjects was required to reinforce the other subject. Response exchange patterns, more commonly known among social psychologists and sociologists as exchange patterns (Thibault and Kelly, 1959; Homans, 1961; and Blau, 1964), describe mutually reinforcing responses of two partners to an interaction. Person 1 reinforces Person 2, who in turn, reinforces Person 1. Response sharing patterns, on the other hand, are differentiated from exchange as cooperative, a pattern requiring responses from both parties for reinforcement to occur.

Exchange, cooperation, and competition also may be defined in terms of the social contingency in effect. The exchange contingency is a mutual dependency between two persons for their reinforcement: Person 1's reinforcement is dependent upon Person 2's responses, and Person 2's reinforcement is dependent upon Person 1's responses. Exchange behavior is behavior that is a function of this contingency, increasing when the contingency is in effect and decreasing when the contingency is discontinued. For example, Person 1 and Person 2's giving to other responses (reinforcing other responses) increase during the exchange contingency and then decrease in its absence. (Haring and Mithaug, 1972).

The cooperative contingency is reinforcement contingent upon the responses of two or more persons: Person 1 and 2 must respond appropriately before either is reinforced. Cooperative behavior is behavior that is a function of this contingency, increasing when the contingency is in effect and decreasing when it is discontinued. For example, Person 1 and 2's joint responses increase during the cooperative contingency and then decrease when the contingency is discontinued. (Haring and Mithaug, 1972).

The competitive contingency is reinforcement contingent upon a comparative response outcome: If Person 1's response rate is higher than Person 2's, Person 1 is reinforced. Competitive behavior is behavior that is a function of this contingency, increasing when the contingency is in effect and decreasing when it is discontinued (Haring and Mithaug, 1972).

Behavior patterns characteristic of each pattern may sometimes be employed as corroborative measures of the social processes.

In general, exchange patterns are characterized by the mutual dependency of the interactors. When evidence is available that Person 1 is giving something to Person 2 that is reinforcing, and Person 2 is giving something to Person 1 that also is reinforcing, one may conclude the two are exchanging. Measuring the exchange pattern requires that the investigator measure the mutual giving of reinforcers.

Cooperative patterns are characterized by the interdependency of the interactors. Both must respond for either to be reinforced. When evidence is available that Person 1 and Person 2 are responding jointly or in coordination with one another, e.g., one is doing one job and the other another job, both of which are required for task completion, one may conclude the two are cooperating. Measuring this cooperative pattern, requires that the investigator measure the performance of each on the separate job or different role. An example of measurements of this type is reported in Mithaug and Burgess (1968) where the division of labor was recorded on an event recorder. Three-person groups worked together to produce points on an electromechanical counter. A division of labor emerged and provided an occasion for a corroborative measure of cooperative behavior. Two members of the group held their keys down while a third pressed rapidly. This holder, holder, presser pattern was recorded on the record sheet of an event recorder which provided graphic data on the division of labor pattern.

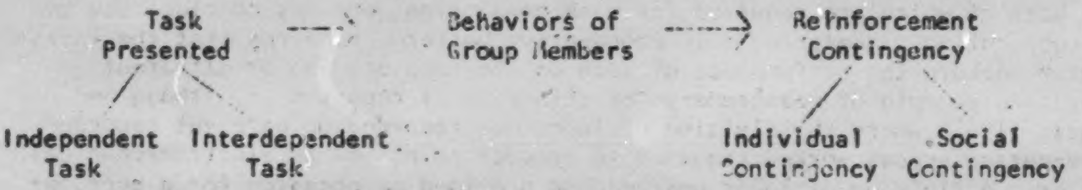
Identifying a comparable corroborative measure for competitive behavior is a difficult task as little research has been done on the specific characteristic of the process that motivates behavior (Clifford, 1972). Festinger's work (1954) on social comparisons provides support for the notion that as competitors strive to surpass the other they compare each other's achievement in order to evaluate who is ahead of whom. In a recent study by Mithaug (1973) competitive behavior was identified by manipulating competitive contingencies and measuring task achievement rates and social comparisons. During the competitive contingencies task rates increased as did rates of comparing Self's performance level with Other's. This study suggests that social comparisons are behavior patterns characteristic of the competitive process and may be employed to identify competition. When subjects compete they seek out information about the progress of their competitor in order to evaluate who is ahead of whom.

b. Past Research on the Social Processes

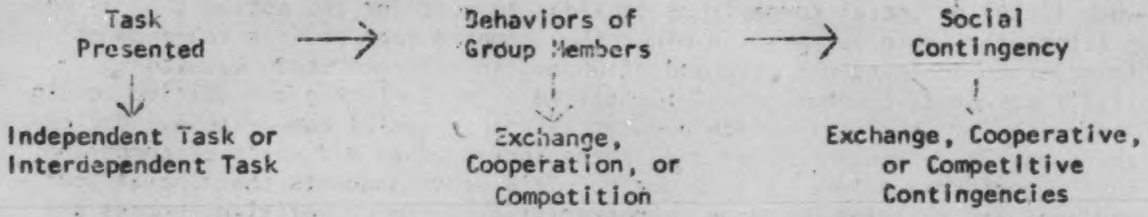
Social behavior, like individual, nonsocial behavior, is a function of the stimulus events, antecedent or immediately preceding, and subsequent or immediately following, the behavior. The antecedent events may be classified as task events according to the response requirements for task completion.

Independent tasks require the responses of a single person for task completion, and interdependent tasks require the responses of two or more persons for task completion. Subsequent events may be classified according to the type of reinforcement contingency employed to motivate task performance, either individual or social contingencies. If the contingency is social, three arrangements frequently observed are exchange, cooperative, and competitive contingencies.

Together, antecedent and subsequent event arrangements determine the type of social interaction that will develop. For example, an antecedent event occurs when a two-person group is confronted with a problem to solve or a task to complete. The incentives employed to motivate performance on the task may be either individual or social contingencies. The diagram below describes these relationships:



If the task is independent, requiring the responses of a single group member for completion, and the reinforcement contingency is individual rather than social, one group member may work on the task without assistance from other members. No interaction emerges. If, on the other hand, the reinforcement contingency is social, then the type of contingency in effect may determine the group behavior that will emerge. The following diagram illustrates these possibilities:


Task Presented
Behaviors of Group Members
Social Contingency
Independent Task or Interdependent Task
Exchange, Cooperation, or Competition
Exchange, Cooperative, or Competitive Contingencies

The possible combinations of antecedent and subsequent event arrangements are identified in the table below: 1) an independent task and an exchange contingency combination in Cell 1; 2) an interdependent task and an exchange contingency in Cell 2; 3) an independent task and a cooperative contingency in Cell 3; 4) an interdependent task and a cooperative contingency in Cell 4; 5) an independent task and a competitive contingency in Cell 5; and 6) an interdependent task and a competitive contingency in Cell 6.

TABLE 2

	ANTECEDENT EVENT	
	Independent Task	Interdependent Task
SUBSEQUENT EVENT Exchange Contingency	CELL 1	CELL 2
Cooperative Contingency	CELL 3	CELL 4
Competitive Contingency	CELL 5	CELL 6

Table II classifies social process studies according to the type of task presented to group members and the type of social contingency employed to motivate task performance. Cells 1-5 present studies on the social processes occurring within a specified group of subjects. These intragroup process studies are contrasted with the intergroup process studies in Cell 6. Here, intragroup cooperation and intergroup competition result from associating interdependent tasks and competitive contingencies.

(1) Research in Cell 1

Cell 1 provides a listing of studies employing independent tasks and exchange contingencies to motivate task performance. In the Sidowski, Wyckoff, and Tabory (1956) and Sidowski (1957) studies, the independent tasks were to produce points on electromechanical counters which required responses from a single subject. The exchange contingency specified that counter points produced by Person 1 were Person 2's reward points and counter points produced by Person 2 were Person 1's reward points. The subjects exchanged by delivering reward points to each other.

Rosenberg and Hall (1958) and Rosenberg (1959, 1960) employed a task with variable interdependence. In some experiments a dial-turning task required the responses of a single subject for reinforcement, and in other experiments both subjects had to turn their response dials for reinforcement. The experiments in which the dial-turning task was dependent upon responses from a single subject for reinforcement belong in Cell 1. Here, Subject 1's dial turning responses produced reinforcers for Subject 2 whose dial turning responses, in turn, produced reinforcers for Subject 1.

TABLE 3 Classification of Past Social Process Research

ANTECEDENT EVENT

SUBSEQUENT EVENT	Independent Task	Interdependent Task
Exchange Contingency	Sidowski, Wyckoff & Tabory (1956) Sidowski (1957) Rosenberg & Hall (1958) Rosenberg (1959, 1960) Hollis (1966)	Rosenberg & Hall (1958) Rosenberg (1959, 1960) Rosenberg (1963) Weingold & Webster (1964) Hingtgen, Sanders & DeMyer (1965) Hake & Vukelich (1973)
Cooperative Contingency	Zarrish, Saunders, & Wolf (1969) Schmidt & Ulrich (1969) Packard (1970) Herman & Tramontana (1971) Hedland & Stachnik (1972)	Peters & Murphree (1954) Azrin & Lindsley (1956) King, Armitage & Tilton (1960) Cohen (1962) Lindsley (1966) Hollis (1966) Hingtgen & Trost (1966) Brotsky & Thomas (1967) Mithaug & Burgess (1967, 1968) Schmitt & Marwell (1968) Vogler (1968) Nelson & Madsen (1969) Mithaug (1969) Stewart, Zelman & Mithaug (1971) Schmitt & Marwell (1971 a & b) Marwell, Schmitt & Shotola (1971)
Competitive Contingency	Triplett (1897) Whittemore (1924) Hurlock (1927) Maller (1929) Vaughn (1936) Shaw (1958) Stone (1964) Clayton (1964) Lindsley (1966) Humphrey (1967) Locke & Bryan (1967) Clifford (1971) Mithaug (1973)	Stewart, Zelman, & Mithaug (1971)

Hollis (1966) employed a Wisconsin General Test Apparatus with modification for dyad studies. The independent task in some of the experiments was extending a baited cart to one of the subjects. This task required a handle pulling response from the other subjects. In the exchange contingency Subject 1 received the baited cart from Subject 2 on selected trials and Subject 2 received the baited cart from Subject 1 on other trials.

(2) Research in Cell 2

In Cell 2 studies employed interdependent tasks and exchange contingencies to motivate task performance. The format requires Subject 1 and 2's task responses for Subject 2's reinforcement alternated with Subject 1 and 2's task responses for Subject 1's reinforcement. In studies by Rosenberg and Hall (1958) and Rosenberg (1959, 1960), for example, a high percentage of S1's dial turns and a small percentage of S2's dial turns produced S1's reinforcement. S1 and S2's task interdependence required both to work for one to be reinforced. When the conditions alternated, S1 and S2 exchanged with both working for S1's reinforcement and then both working for S2's reinforcement.

Another good example of the interdependent task and exchange contingency is provided in the Hingtgen, Sanders, and Demyer (1965) study, where one subject activated the other's apparatus, who could then respond and produce a reinforcer for himself. When alternated, the procedures allowed the subjects to exchange by both working for one and then for the other's reinforcement.

(3) Research in Cell 3

In Cell 3 studies employ independent tasks and cooperative contingencies. The independent task is broadly defined to include all appropriate independent responses. When a student, for example, completes his assignment he has completed an independent task, and when he remains in his seat until the bell rings, he has achieved a behavioral objective prescribed by the teacher. In these studies there are no interdependent tasks requiring the responses of two or more subjects. The cooperative contingency, however, provides a condition of interdependence by making all student's reinforcement contingent upon appropriate responses from two or more subjects.

In classroom situations this contingency, usually called a group contingency, is employed to control independent task and non-task behaviors. Barrish, Saunders, and Wolf (1969) and Medland and Stachnick (1972), for example, employed the cooperative contingency to control inappropriate classroom behaviors. The group lost privileges for inappropriate behaviors by group members. Inappropriate behaviors resulted in the group loosing and gained special privileges for appropriate behaviors. Reinforcement of all was contingent upon appropriate responses from all. The contingency reduced the number of inappropriate classroom behaviors.

Schmidt and Ulrich (1969) employed the cooperative contingency to reduce the noise level of a regular public school classroom. The reinforcement contingent upon quiet in the classroom was an additional two minutes of class gym and a two-minute break after maintaining an unbroken ten minutes of quiet. A decible meter recorded the class's noise level. Noise above the sound limit resulted in a delay of reinforcement for the class by resetting the timer to the full ten-minute interval. The cooperative contingency successfully decreased the noise produced by the students.

Packard (1970) increased students' attention to task materials by making reinforcement of all class members contingent upon each student's attention to task materials. Herman and Tramontana (1971) increased conformity to class rules by making the class's reinforcement contingent upon each student's conformity.

In each of these studies reinforcement of the group was dependent upon the responses of each group member. A failure of a single member could result in the loss of reinforcement for the entire group. These procedures suggest an efficient and economical method for increasing performance and controlling inappropriate behaviors in the classroom.

(4) Research in Cell 4

In Cell 4 studies employ interdependent tasks and cooperative contingencies. Here the cooperative contingency is administered as a reinforcement contingent upon completion of the interdependent task, which requires the responses of two or more for task completion. An example of the procedures typically employed in these studies is provided by the Azrin and Lindsley study (1956). The interdependent task for two children, sitting face to face across a table divided by a screen, was to place their metal styluses in corresponding receiving holes, one of three, within .5 seconds of each other. The cooperative contingency was a jelly bean delivery contingent upon the joint response. Modifications of this task were employed by Cohen (1962) and Lindsley (1966), who reduced the task requirements to pulling response plungers within .5 seconds of each other. The cooperative contingency was reinforcements contingent upon coordinated plunger pulls.

Comparable interdependent tasks employed by Mithaug and Burgess, 1967, 1968; Mithaug, 1969; and Stewart, Zelman, and Mithaug, 1971, required each of three group members to press a response key or button switch within .5 seconds of each other in order to produce a point on an electromechanical counter. The cooperative contingency was a penny reinforcement for every X points accumulated on the counters.

(5) Research in Cell 5

In Cell 5 studies employ independent tasks and competitive contingencies to produce competitive behavior. The competitive contingency has been evaluated on different types of independent tasks, according to task difficulty. Clifford, Cleary, and Walster (1971) report that the competitive contingency has no effect on performance when the task requires complex problem-solving skills with an imposed time limit. This information is in accord with Shaw's conclusion (1958) that competitive contingencies are more effective on mechanical or skill-oriented tasks than on complex, problem-solving tasks.

Although research has provided information on the task difficulty dimension of the competitive process, little research has been done on the specific characteristics of a competitive situation which arouse and sustain interest (Clifford, 1972). Mithaug (1973) has provided an analysis of the competitive process that is based upon the comparative nature of the pattern. In that study the competitive contingency with an independent task was evaluated to determine its effects on task performance and social comparisons. Postulated as a necessary component of the competitive process, social comparisons were measured by recording and correlating the rates at which Subject and Partner worked for information about their own and the Other's task performance. The study found that both task performance and social comparisons were a function of the competitive contingency, increasing when the contingency was in effect and then decreasing when it was discontinued.

(6) Research in Cell 6

In Cell 6 studies employ interdependent tasks and competitive contingencies. This requires the study of intergroup processes rather than the intragroup process studies in Cells 1-5. Group members work together on interdependent tasks while different groups compete under an intergroup competitive contingency. This arrangement may produce intragroup cooperation and intergroup competition, and is a frequent occurrence in natural settings where business organizations compete with each other to achieve a greater share of the consumer resources while the members within each organization cooperate to service the clientel more effectively.

Stewart, Zelman, and Mithaug (1971) report one of the few studies where rates of intragroup cooperation were a function of the intergroup competitive contingency. The interdependent task of that study was the same for both groups, accumulating points on an electromechanical counter. The rates of task output by three-person cooperative groups were investigated by manipulating payoffs to group members when achievements on the interdependent tasks equaled a standard prescribed by the experimenter: surpassed the task achievements of another group and achieved a higher, lower, and then higher task rates than another group. The data supported the proposition that task achievement rates of three-person cooperative groups were a positive function of competitive contingencies. When rewards were contingent upon a higher comparison outcome, group task rates increased, and when rewards were contingent upon a lower comparison outcome, the rates decreased.

c. Implications of Past Research

The current state of our knowledge about the social processes suggests that social behavior, like individual behavior, is a function of its consequences: exchange behaviors are a function of exchange contingencies, cooperative behaviors are a function of cooperative contingencies, and competitive behaviors are a function of competitive contingencies.

(1) Social Responses

The relationships between social behaviors and social contingencies are specified in greater detail by considering the antecedent task arrangements that may elicit a social response. In fact, social process research findings suggest that the arrangement between the response requirements of the task and the social contingencies may determine the type of social response that develops. Table 4 below summarizes different social patterns that have resulted from each of the six combinations:

TABLE 4

Social Responses

		ANTECEDENT EVENT	
		Independent Task	Interdependent Task
SUBSEQUENT EVENT	Exchange Contingency	1 Exchanging reinforcing behaviors	2 Exchanging joint behaviors
	Cooperative Contingency	3 Conforming behaviors	4 Joint (coordinated) behaviors
	Competitive Contingency	5 Interperson surpassing behaviors	6 Intergroup surpassing behaviors

When an exchange contingency is employed to motivate performance on independent tasks (Cell 1) the partners to the interaction exchange reinforcing behaviors. Person 1 emits a behavior that produces reinforcement for Person 2, who in turn emits a behavior that produces reinforcement for Person 1. When an exchange contingency is employed to motivate performance on an interdependent task (Cell 2), the partners typically coordinate their responses to produce reinforcement for Person 1 and then coordinate their responses again to produce reinforcement for Person 2.

In Cell 3 when the cooperative contingency is employed to motivate performance on independent tasks or to change individual behaviors, all members of the group conform by responding within limits prescribed by the contingency. When all members conform, reinforcement of the group occurs. In Cell 4 the cooperative contingency is employed to motivate performance on an interdependent task. Here, Person 1 and 2's responses are required to complete the task, e.g., Person 1 must perform behavior X at time A when Person 2 performs behavior Y at specified time B in order to complete the task. This coordination of responses characterizes the cooperative pattern that results from pairing cooperative contingencies and interdependent tasks.

In Cell 5 the competitive contingency is employed to motivate performance on independent tasks and the pattern that results is interperson surpassing responses, as one person strives to surpass the performance levels set by another. In Cell 6 the competitive contingency is employed to motivate performance on interdependent tasks and the pattern resulting is intergroup surpassing behaviors, with one group striving to surpass the performance level set by another group.

(2) Feedback Responses

Hake, Vukelich, and Kaplan's brief review (1973) of the preliminary research on feedback conditions suggests that the access to scores on one's performance affects "subsequent educational performance (Krumboltz and Weisman, 1962; Boersma, 1966; Sassenrath and Yonge, 1969), self-reward behaviors (Bandura and Whalen, 1966; Mischel, Coates, and Raskoff, 1968; and Masters, 1968), and cooperative behaviors (McClintock and McNeil, 1966; Marwell, Ratcliff, and Schmitt, 1969; Schmitt and Marwell, 1971; Voissem and Sistrunk, 1971)."[1] The effects of certain types of feedback behaviors on social responses also is suggested by Festinger's work (1954) on social comparisons, which provides support for the notion that competitors striving to surpass each other compare achievements in order to evaluate who is ahead of whom.

Two classes of behavior frequently identified with the three social processes are task and feedback responses. During the exchange process, for example, feedback and task responses may be correlated as subjects exchange favors. One subject may provide a service or a favor such as babysitting for a friend, expecting that the favor will be reciprocated at some later date. The task behaviors are the babysitting responses required to successfully complete the service, while the feedback responses include observing and recording, (mentally, of course) the frequency and length of time that services were rendered. This information is necessary to determine the equity of reciprocated favors that are forthcoming. Both partners to the exchange engage in these monitoring, auditing, or feedback behaviors to insure an equitable pattern of reciprocity over time.

---

[1] Hake, D. F., Vukelich, R., Kaplan, S. J. Audit responses: Responses maintained by access to existing self or coacter scores during non-social parallel work, and cooperation procedures. Journal of Experimental Analysis of Behavior, 1973, 19, 409-423.

During the cooperative process the correlated responses emitted during the cooperative contingency similarly include both task and feedback behaviors. As two children work together on a teeter-toter, for example, they coordinate their leg pushes so that one subject pushes from the ground while the other rests, who then pushes from the ground while the first rests. The net effect may be a smooth teeter-toter ride. Feedback behaviors include watching the other to see when and how hard he pushes. This information prepares the one sitting high in the air for a cushioned landing. The feedback behavior, watching other as he performs his role in the interdependent task, facilitates the coordinated pattern. Additional feedback may result from verbalizations between the two as they transfer information about the appropriateness of the leg pushes. If one subject pushes too hard causing the other to loose his seat, the consequences may be a verbalization: "not so hard, slow down."

During the competitive process correlated feedback and task responses are emitted when a competitive contingency is in effect. In a foot race the subjects' task behaviors are running the prescribed distance, while their feedback behaviors include turning their heads to see who is ahead of whom and by how far. These feedback responses may, in turn, alter the competitors' task behaviors, as the runner who is far ahead of the rest slackens his pace, judging that he is far enough ahead to relax a bit and still win.

In summary then, we see that feedback, information gathering, or auditing responses may contribute to the emergence and development of social interaction. For this reason our investigations of the social processes must include an analysis of the antecedent feedback conditions that affect social interactions. In Table 5 below antecedent events are subdivided into feedback and task conditions. The feedback conditions describe the feedback opportunities a subject or group of subjects encounter while working under specified task requirements and social contingencies. For example, during independent and interdependent task requirements, feedback conditions are opportunities to obtain information on how one is doing on the task, Self's feedback; how one's partner is doing on the task, Other's feedback; how one's group is doing on the task, own group's feedback; and how another group is doing on the task, other group's feedback. Each of these feedback conditions may be available during any of the three social contingencies: exchange, cooperative, or competitive. Table 5 below contains 24 cells representing the possible combinations of the three variables: task requirements, feedback conditions, and social contingencies:

TABLE 5

ANTECEDENT EVENT ARRANGEMENT		SUBSEQUENT EVENT ARRANGEMENT		
		Social Contingencies		
Task Arrangements	Feedback Conditions	Exchange	Cooperation	Competition
Independent Tasks	Feedback On Self	1	2	3
	Feedback On Other	4	5	6
	Feedback On Own Group	7	8	9
	Feedback On Other Group	10	11	12
Interdependent Tasks	Feedback On Self	13	14	15
	Feedback On Other	16	17	18
	Feedback On Own Group	19	20	21
	Feedback On Other Group	22	23	24

C. Method

1. Project Design

This study has three research components: basic research that investigates the effects of feedback conditions and social contingencies on the social processes; developmental research that investigates methods for developing the three social patterns as students work on academic tasks; and applied research which assesses social interaction deficits in the classroom and employs task arrangements, feedback conditions, and social contingencies to develop social interaction and to increase performance on academic tasks

Each research phase employs a similar method for experimentally identifying causal relationships between antecedent or subsequent events and behavior. The experimental analysis design utilizes the subject or group as its own control and requires continuous measurement of the dependent variable in order to establish its rate of occurrence prior to manipulations. Once a baseline or regular rate of occurrence is recorded for the behavior of a subject or the interaction in a group, the experimenter manipulates the independent variable while continuing to monitor and record the dependent variable's rate of occurrence. When the manipulation is discontinued in the final condition, the experimenter records the behavioral rate to identify any changes back to the original baseline.

All experiments in basic, developmental, and applied research phases employed the experimental analysis design with subject and/or groups serving as their own controls. For each experiment, baselines were established in Condition A prior to an experimental manipulation in Condition B of the A-B-A Condition sequence. The final A Condition of the sequence allowed the experimenter to determine the reversibility of changes occurring during the B Condition. Such a reversal provided evidence that the independent variable manipulated in Condition B had an effect on the dependent variable. (For a detailed discussion of this method of analysis and evaluation of changes in dependent variables, see Sidman, 1960).

2. Independent and Dependent Variables of the Study

The antecedent and subsequent event conditions described in a preceding analysis provide the format for study. The events are classified as independent or dependent variables in order to provide a focus for each of the three research phases. The table below summarizes by research phase the types of independent and dependent variables employed to investigate the social processes:

TABLE 6

		Independent Variables			Dependent Variables		
		Task Requirements	Feedback Conditions	Social Contingencies	Feedback Responses	Social Responses	Academic Performance
Research Phases	Basic Research		X	X	X	X	
	Developmental Research	X		X		X	
	Applied Research	X	X	X		X	X

In the basic research phase social contingencies and feedback conditions are independent variables and social interaction patterns and feedback responses are the dependent variables. The experimenter manipulates social contingencies and feedback conditions while observing corresponding changes in social interactions and feedback responses. The information resulting from these investigations will assist in arranging antecedent and subsequent events to promote the development of social patterns.

In the developmental research phase, social contingencies and task completion requirements are independent variables and social choices on how to interact with another are the dependent variables. The experimenter manipulates social contingencies and task completion requirements while observing the effects on choices to exchange, cooperate, or compete with Partner, as both students work on academic tasks.

In the applied research phase task completion requirements, feedback conditions, and social contingencies are independent variables and social interaction and academic performance are dependent variables.

3. Population

Students enrolled at the Experimental Education Unit range in ages from 3 to 18 years. The preschool classes include children in the 3-5 age group, primary classes for the 6-8 age group, intermediate classes for the 9-11 age range, and secondary classes for students from 12-18 years of age. Each age grouping forms two classes: A Classrooms for children with severe learning and social-emotional disorders and B Classrooms for children with milder academic and social problems.

The population of study for this project included 42 students enrolled in the preschool, intermediate, and secondary classes at the Experimental Education Unit, 8 students from Seattle Public Schools, and 2 preschool children of an E.E.U. staff member. The students from the Experimental Education Unit were distributed in age and sex categories according to the type of classroom they were enrolled. (See Table 7) The 8 public school students were junior high school ages, 3 males and 5 females. The 2 preschoolers of the staff member were 3 and 5 years of age, female and male.

TABLE 7

	Preschool	Intermediate		Secondary		Total
		A	B	A	B	
Male	7	7	8	6	7	35
Female	0	1	0	0	6	7
Total	7	8	8	6	13	42

4. Apparatus

Experiments in basic, developmental, and applied research employ different systems of instrumentation, with each study designed to fit the particular needs of a given phase.

a. Instrumentation System for Basic Research

Two social process consoles were developed to investigate social behavior patterns during the basic research phase. Both consoles employed a simple task for measuring social patterns: pressing a button switch to produce points on an electromechanical counter, 100 points = 2¢. The first console that was developed is illustrated in Figure 1. The subject operates the console by pressing the task button which operates one of the counters situated behind the one-way mirror. The student can monitor the counter by pressing a light switch which flashes a light above that counter for .1 second. By pressing another light switch he can monitor how many points a partner, also working on a similar console, has earned. The third light switch allows the subject to monitor how many bonus reward points he has earned for producing more points on his task counter than his partner.

The second console that was developed allows students to cooperate, exchange, or compete for points by working on one of several button switches. This social process console, illustrated in Figure 2, also has two components: a response panel (the horizontal component) consisting of nine button switches and nine indicator lights; and a display panel (the vertical component) consisting of an outer piece, a one-way mirror which shields the five electromechanical counters located within the console directly behind the mirror. Situated above each electromechanical counter is a light that flashes for .1 second when an appropriate button switch on the response panel is depressed. The light flash allows the person operating the console to see the counters tabulating points through the one-way mirror. The student works for himself by pressing a button switch to produce points

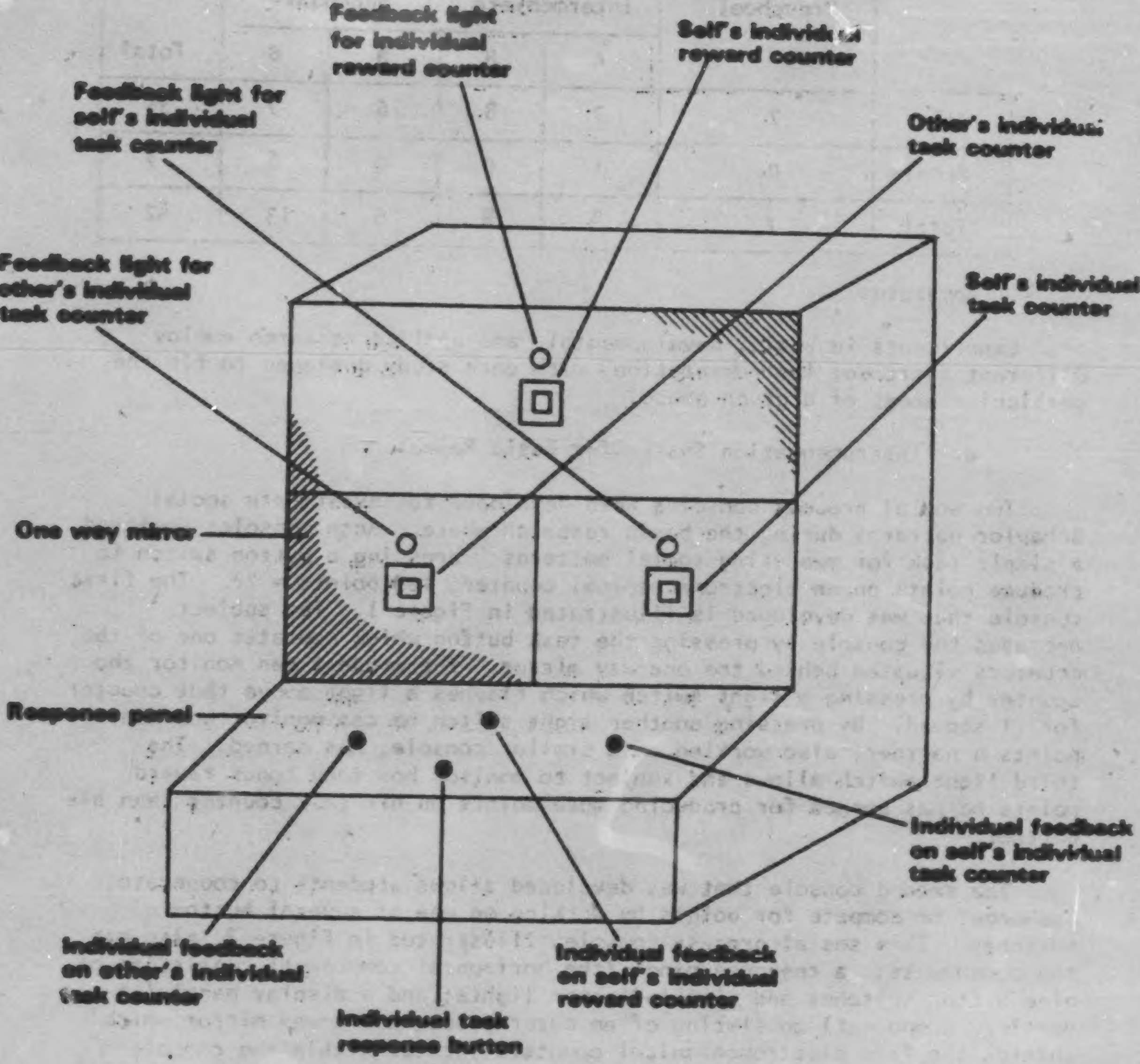

Feedback light for individual reward counter
Self's individual reward counter
Feedback light for self's individual task counter
Other's individual task counter
Feedback light for other's individual task counter
Self's individual task counter
One way mirror
Response panel
Individual feedback on self's indivivual task counter
Individual feedback on other's individual task counter
Individual feedback on self's individual reward counter
Individual task response button

Figure 1

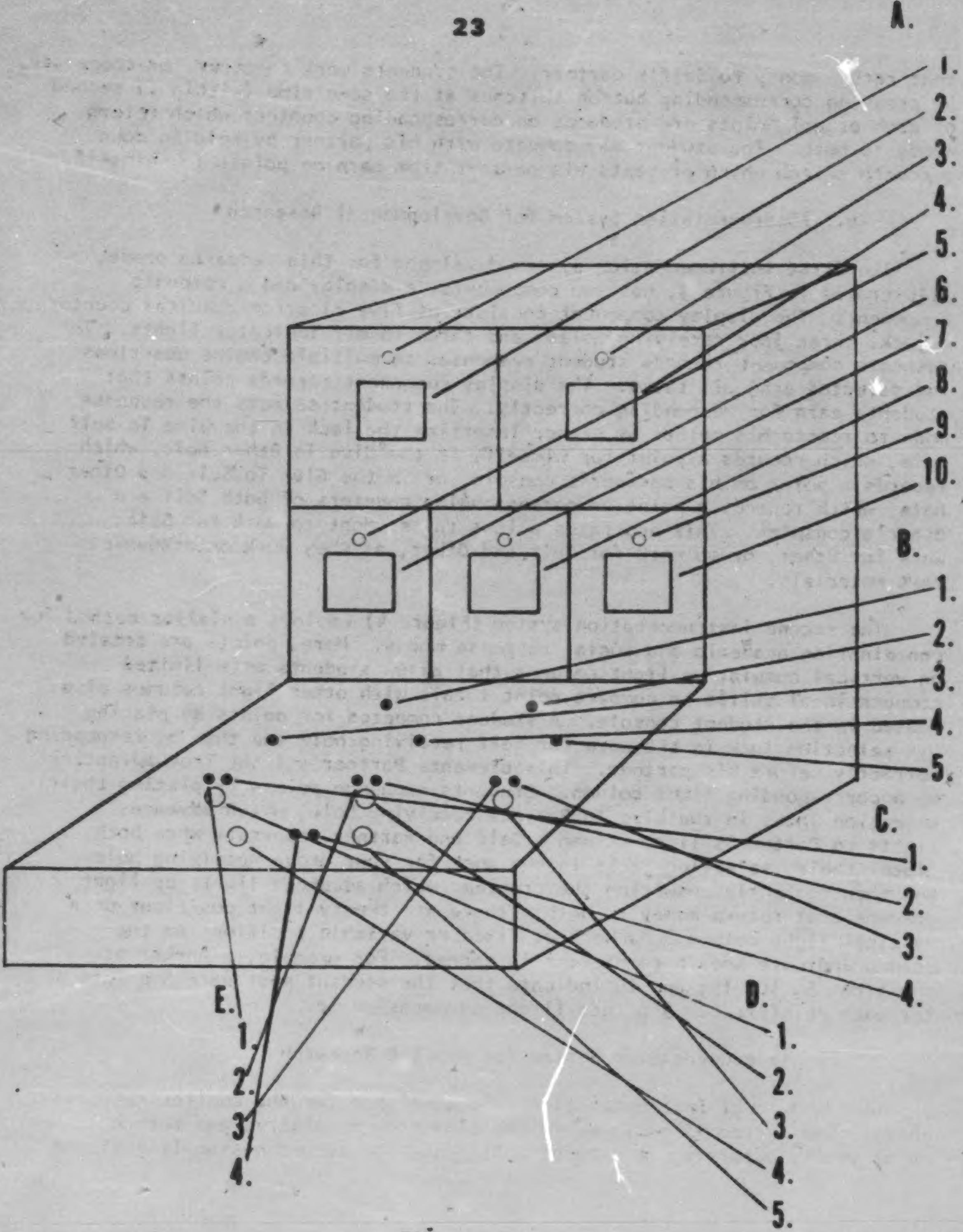


Figure 2

that return money to Self's partner. The students work together, or cooperate, by pressing corresponding button switches at the same time (within .1 second of each other). Points are produced on corresponding counters which return money to both. The student may compete with his partner by holding down a fourth switch which prevents his partner from earning points for himself.

b. Instrumentation System for Developmental Research

The first instrumentation system developed for this research phase, illustrated in Figure 3, has two components, a display and a response component. The display component consists of five electromechanical counters, a jack, three jack receiving holes, and three on-off indicator lights. The response component records student responses to multiple choice questions for selected academic tasks. The display component records points that students earn for responding correctly. The student selects the response mode to record his points by either inserting the jack in the Give To Self hole, which records a point for himself, in the Give To Other hole, which records a point on his partner's console, or in the Give To Self And Other hole, which records a point on corresponding counters of both Self and Other's consoles. This apparatus allows the student to work for Self, work for Other, or to work for Self and Other, as they work on academic task materials.

The second instrumentation system (Figure 4) employs a similar method for coordinating academic and social response modes. Here, points are totaled on vertical cumulative light columns that allow students with limited computational skills to compare point totals with other light columns also housed in the student console. A student competes for points by placing his selection jack in the work for Self receiving hole and then by responding correctly before his partner. This prevents Partner's light from advancing up a corresponding light column. Students exchange points by placing their selection jacks in the Give To Partner receiving hole, which advances lights on Partner's light column. Self and Partner cooperate when both place their selection jacks in the work for your group receiving hole and then correctly answering the problem, which advances lights up light columns that return money to both. There are twenty light positions on a vertical light column. Markers at fixed or variable positions on the column indicate when a reinforcer is earned. For example, a marker at positions 5, 10, 15, and 20 indicate that the student must earn 5 points for each reinforcer: 5 points (light advances) = 1¢.

c. Instrumentation System for Applied Research

Two systems of instrumentation were developed for the applied research phase. One system is employed in the classroom to observe and record social events occurring in natural settings. The second system is employed

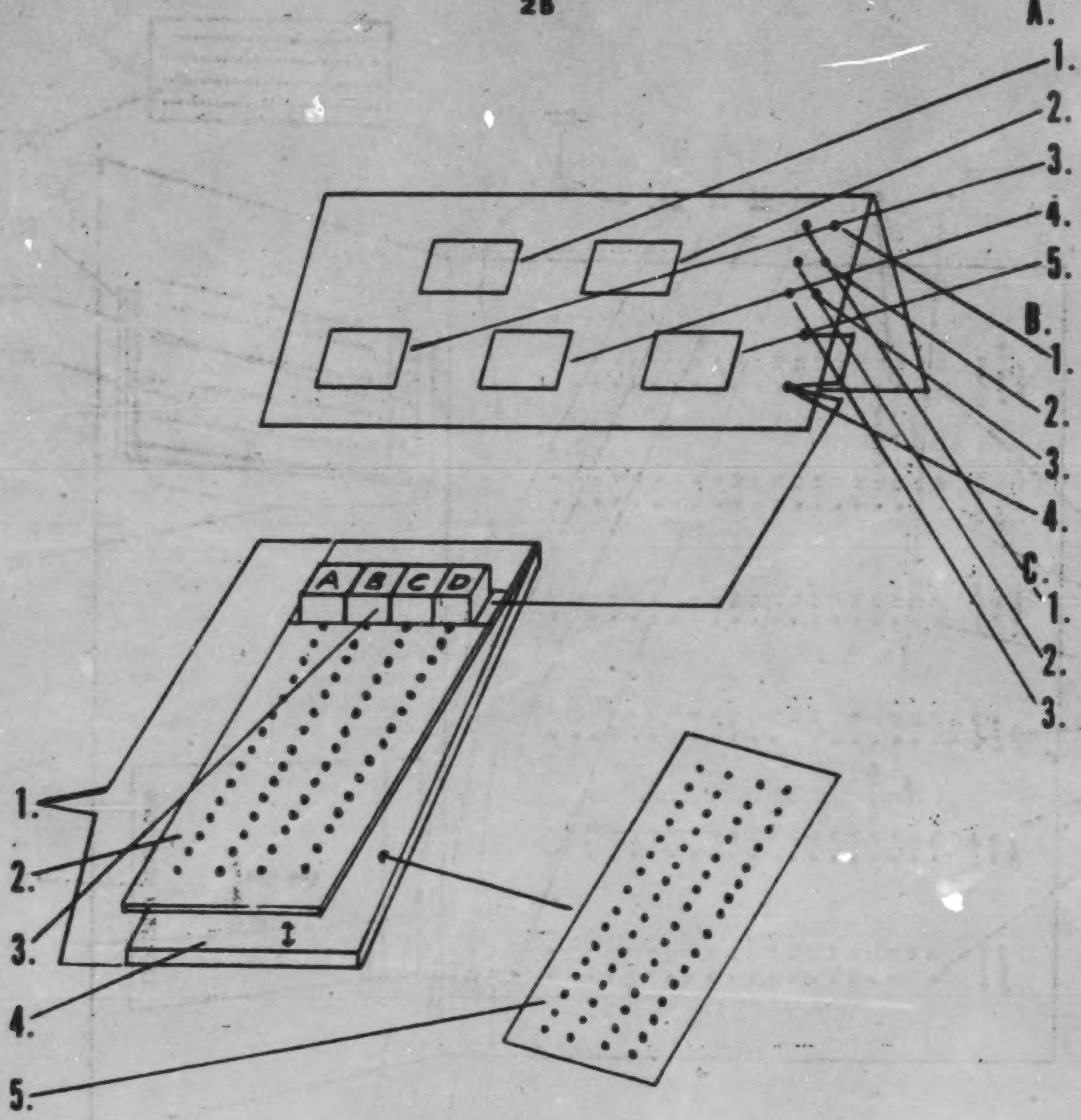


Figure 3

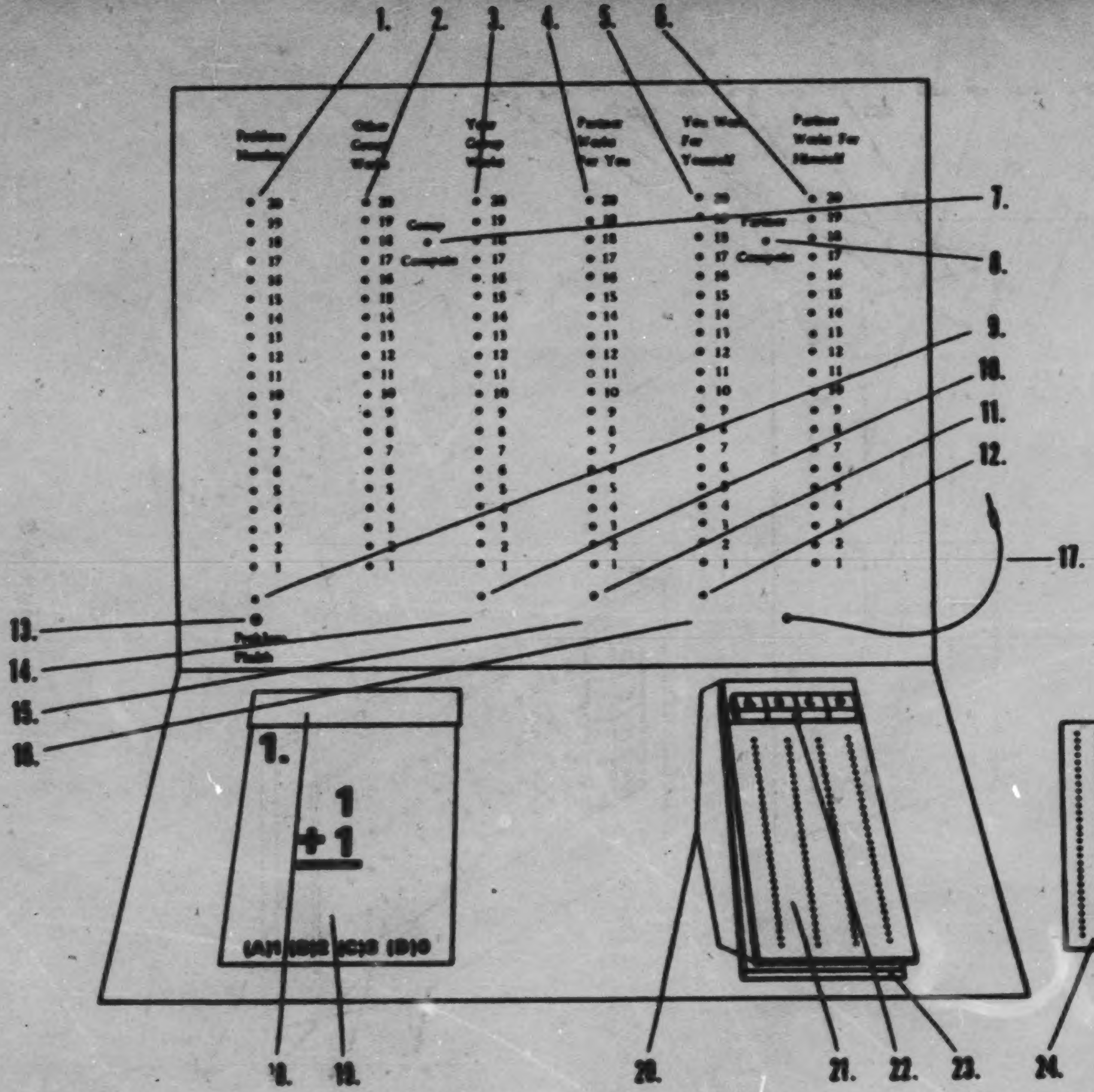

1.
2.
3.
4.
5.
6.
Problem Number
Other Comp Works
Your Comp Works
Partner Works For You
You Work For Yourself
Partner Works For Himself
Comp Complete
Partner Complete
7.
8.
9.
10.
11.
12.
17.
13.
14.
15.
16.
Problem Finish
1.
1
+1
(A)1 (B)2 (C)3 (D)0
18.
19.
20.
21.
22.
23.
24.

Figure 4

in a controlled setting to develop specific social patterns and to increase academic performance.

(1) Instrumentation System in the Classroom

The apparatus employed for classroom research is a data collection instrument designed for observing and recording precoded numbered events. The instrument components include a clipboard which houses 12 (3X4) button switches identified by the numbers 0-9, a print button, and an error button. This switching apparatus is connected to a portable cassette recorder which records numbered entries on a tape cassette in the same order that they are entered. The observer enters numbers by pressing the desired sequence, e.g., 145, and then pressing the enter button. If an error occurs and 135 is pressed rather than 145 the observer presses the error button and then reenters the desired sequence. The sequence is recorded and later retrieved from teletype printouts. The recording system is portable as the cassette recorder is operated on rechargeable batteries, allowing the observer to move about the classroom while recording events.[1]

One code developed for monitoring social interaction in the classroom consists of three digits. The first digit, 1-4, identifies verbal initiations: the subject initiated verbal contact with another student, Code 1; verbal receives, another student initiated verbal contact with the observed subject, Code 2; physical initiation: the observed subject initiated physical contact with another student, Code 3; or physical receives: another subject initiated physical contact with the observed subject, Code 4. The second two digits identify the other student by number from 01 to 99.

The Code 101, for example, indicates that the observed subject initiated verbal contact with Subject #01. A 201 Code indicates that Subject #01 initiated verbal contact with the observed subject. This recording system provides a precise account of the sequence of events and the time interval between each of these events. The teletype readout, for example, lists in one column the coded entries in the order they were entered and in the second column the time intervals between each entry. A sample sequence is provided below:

---

[1] Sackett, G. P., Stevenson, E., and Ruppenthal, G. C., Digital Data acquisition systems for observing behavior in laboratory and field settings. Behav. Res. Meth. and Instru., 1973, Vol. 5, 344-348.

TABLE 8

Coded Entries	Intercode Time Interval
05	0087
213	0035
113	0019
213	0061
413	0115
413	0022
213	0031
213	0079
213	

The first entry 05 identifies the observed subject and all subsequent codes with respect to that subject. The time interval between the 05 entry and the 213 entry was 8.7 seconds. The interval between the 213 and 113 entry was 3.5 seconds, between 113 and 213 1.9 seconds, between 213 and 413 was 6.1 seconds, etc. The coded entries describe the following sequence of events:

	Subject 13 initiated verbal contact with S5 (Code 213)
3.5 seconds later	S5 initiated verbal contact with S13 (Code 113)
1.9 seconds later	S13 initiated verbal contact with S5 (Code 213)
6.1 seconds later	S13 initiated physical contact with S5 (Code 413)
11.5 seconds later	S13 again initiated physical contact with S5 (Code 413)
2.2 seconds later	S13 initiated verbal contact with S5 (Code 213)
3.1 seconds later	S13 again initiated verbal contact with S5 (Code 213)
7.9 seconds later	S13 again initiated verbal contact with S5 (Code 213)

A computor program also provides a cumulative time readout that organizes the sequence of events from the beginning to the end of the session. The sample readout below illustrates the cumulative time readout:

TABLE 9

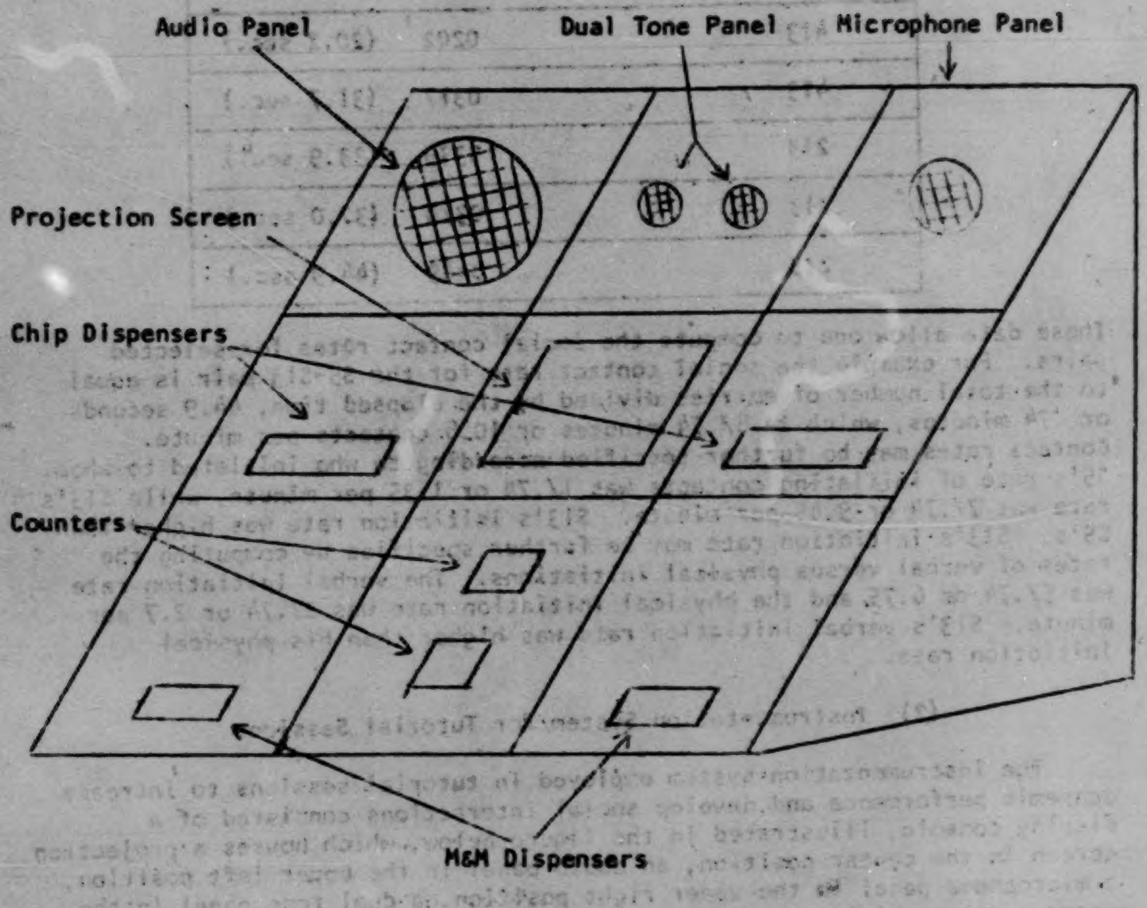
Coded Entries	Cumulative Time
05	
213	0087 (8.7 sec.)
113	0122 (12.2 sec.)
213	0141 (14.1 sec.)
413	0202 (20.2 sec.)
413	0317 (31.7 sec.)
213	0339 (33.9 sec.)
213	0370 (37.0 sec.)
213	0449 (44.9 sec.)

These data allow one to compute the social contact rates for selected pairs. For example the social contact rate for the S5-S13 pair is equal to the total number of entries divided by the elapsed time, 44.9 seconds or .74 minutes, which is 8/.74 minutes or 10.8 contacts per minute. Contact rates may be further specified according to who initiated to whom. S5's rate of initiating contacts was 1/.74 or 1.35 per minute, while S13's rate was 7/.74 or 9.45 per minute. S13's initiation rate was higher than S5's. S13's initiation rate may be further specified by computing the rates of verbal versus physical initiations. The verbal initiation rate was 5/.74 or 6.75 and the physical initiation rate was 2/.74 or 2.7 per minute. S13's verbal initiation rate was higher than his physical initiation rate.

(2) Instrumentation System for Tutorial Sessions

The instrumentation system employed in tutorial sessions to increase academic performance and develop social interactions consisted of a display console, illustrated in the figure below, which houses a projection screen in the center position, an audio panel in the upper left position, a microphone panel in the upper right position, a dual tone panel in the upper center position, two chip dispensers in the middle left and right positions, two M&M dispensers in the lower left and right positions, and a dual counter panel in the lower center position.

FIGURE 5


Audio Panel
Dual Tone Panel
Microphone Panel
Projection Screen
Chip Dispensers
Counters
M&M Dispensers

Academic problems and answers are presented on the projection screen from a carousel projector situated in the rear of the console. Recorded instructions are presented through the audio panel, and verbalizations from students are monitored through the microphone panel. Students receive reinforcers for correct responses from the chip dispensers (for older students) and M&M dispensers (for younger students). Students receive points for correct responses on the dual counters and they receive feedback for incorrect responses from the dual tone panel in the upper center position.

This display system was sometimes employed in conjunction with the columnar light display illustrated in the figure below. Each light in the two columns can be illuminated sequentially from bottom to the top of the display. One column of lights provides feedback for one student and the other for another student. By placing reinforcers intermittantly along each of the columns, the student can observe how far he must go, how many lights he must advance, and hence how many correct responses he must emit before he will obtain the reinforcer.

The academic tasks employed in these sessions include a letter ordering and discrimination task, a word spelling and identification task, an add-facts computational task, and an independent-interdependent puzzle completion task. The independent-interdependent puzzle completion task is designed to develop cooperative physical behaviors and verbal interactions between pairs. The letter ordering and discrimination task and the word spelling and identification task develops these basic academic skills while providing a format for applying social contingencies to increase academic performance. The add-facts computational task develops high rate performance on problem drills while similarly providing a format for social contingency control.

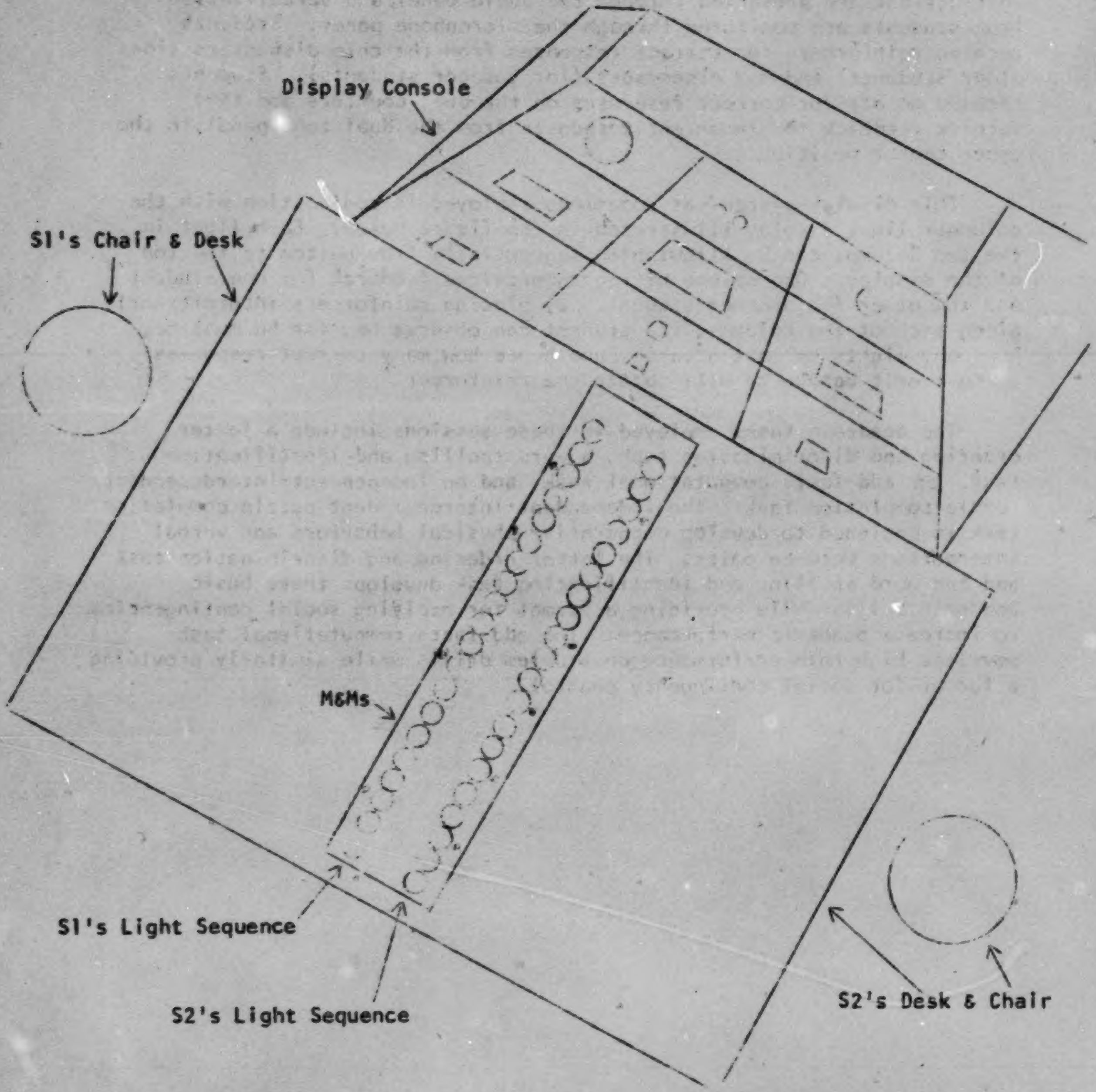

Display Console
S1's Chair & Desk
M&Ms
S1's Light Sequence
S2's Light Sequence
S2's Desk & Chair

FIGURE 6

II. Findings and Analysis

A. Basic Research

1. The Data Analysis System

The data system developed for all investigations conducted in this project require an identification of functional relationships by employing the methods of experimental analysis. By presenting and withholding a stimulus event systematically over a period of time, while observing and recording the rate of occurrence of a dependent variable, the investigator can identify different functional relationships between independent and dependent variables. If the dependent variable increases when the independent variable is presented and then decreases when it is withheld, the relationship is positive. The dependent variable is a positive function of the independent variable. If the dependent variable decreases when the independent variable is presented and then increases when it is withheld, the relationship is negative. The dependent variable is a negative function of the independent variable. If there is no systematic increase-decrease or decrease-increase pattern the independent and dependent variables are not functionally related.

Data from the social process studies for basic research are tabulated on social behavior data analysis forms to facilitate an identification of functional relationships between the behavior of the students and the manipulations of the study. Each study has the A-BOA experimental analysis format, with the manipulation occurring during the B Condition of the sequence.

Three types of social behavior data analysis forms are employed to present findings for different measures. The A Forms, e.g., 1A, present means and standard deviation data; the B Forms, e.g., 1B, present corr correlational data; and the C Forms, e.g. 1C, present multiple correlational data.

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1A

STUDENT #

GROUP #

DATE BEGIN Jan. 2, 1973 DATE END Jan 18, 1973

SESSION #	1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
POT (Dependent Variable)	A Individual Contingency $\bar{X}$ = 246.5			B Competitive Contingency 266.1			A Individual Contingency 243.7		
	a Feedback	b No Feedback	a Feedback	a Feedback	b No Feedback	a Feedback	a Feedback	b No Feedback	a Feedback
N	20	20	20	20	20	20	20	20	20
$\bar{X}$	249	227	262	265	250	282	258	244	228
S	24	16	11	12	14	16	15	14	32

The student and group numbers and beginning date of the first session are listed in the upper left hand corner. The ending date is tabulated in the upper right hand corner. The form has three major subdivisions for three condition changes, six sessions of A, six of B, and six for A again, for a total of 18 sessions. Each major condition is divided into three subdivisions, which constitutes a minor a-b-a condition sequence. These condition changes last two session days each. The condition changes, along with the means, standard deviations, and trial number are identified in the A-B-A and the a-b-a spaces provided. The dependent variable is identified in the vertical space to the far left of the data form.

In the sample A Form the major A Conditions constituted the individual contingency and the major B, the competitive contingency. The dependent variable identified in the vertical column is P.O.T., performance on task (points/minute). The mean rates for the three conditions were 246.5 points/minute, 266.1 points/minute, and 243.7 points/minute. The condition changes for the three minor a-b-a sequences were feedback (counters recording point totals), no feedback (counters not tabulating point totals), and then feedback again. The number of trials per condition was N=20. The nine means for the nine conditions were: 249, 227, 262, 265, 250, 282, 258, 244, and 228. The standard deviations for the nine conditions were: S=24, 16, 11, 12, 14, 16, 15, 14, and 32.

These data provide the investigator with a basis for identifying functional relationships. During the major A-B-A sequence Student I's mean task rate increased as conditions changed from A to B and then decreased as conditions change back to A. Task performance was a positive function of the competitive contingency. During the minor a-b-a sequence occurring during the A and B Conditions, the task rate decreased as conditions changed to no feedback and then increased as conditions changed back to feedback, indicating the task performance was a positive function of feedback during these two conditions. This did not occur during the final A Condition. The task rate decreased as conditions changed from feedback to no feedback, and back to feedback again.

In the same B Form below the dependent variables correlated and identified in the vertical column to the left are P.O.T. and F.O.S., performance on task and feedback on Self (information on how Self is doing on the task). The correlations for the A-B-A condition changes were: .13, .21, and -.15. The correlation increased as conditions changed from A to B and then decreased as conditions changed back to A. The correlation was a positive function of the competitive contingency.

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1B

STUDENT #

GROUP #

DATE BEGIN: Jan. 1, 1973 DATE END: Jan 18, 1973

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P.O.T. - F.O.S.	A Individual Contingency n = .13						B Competitive Contingency n = .21						A Individual Contingency n = -15					

In the sample C Form below the dependent variables for the multiple correlations are identified in the vertical column to the left: P.O.T., F.O.S., and F.O.O., performance on task, feedback on Self, and feedback on Other. P.O.T. is represented by PT, FOS by FS, and FOO by FO. PT=1, FS=2, and FO=3. The multiple correlation for POT with FOS and FOO taken together did not increase or decrease systematically as conditions changed from A to B and back to A again. The multiple correlation for FOS with POT and FOO taken together decreased as conditions changed from A to B and then increased as conditions changed back to A again. This multiple correlation was a negative function of the competitive contingency. The multiple correlation for FOO with FOS and POT taken together similarly decreased and then increased as conditions changed from A to B and then back to A again. This multiple correlation was also a negative function of the competitive contingency.

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1C

STUDENT #________

GROUP #________

DATE BEGIN: Jan 1, 1973 DATE END: Jan 18, 1973

SESSION #	1	2	3	4	5	6	7	3	9	10	11	12	13	14	15	16	17	18

		A Individual Contingency	B Competitive Contingency	A Individual Contingency
	R1.23	.1606	.2734	.3826
PT=1	R2.13	.3229	.2349	.4252
	R3.12	.3229	.1920	.4771
FS=2				
FO=3				

The summary result form illustrated below is divided into columns, with headings identifying information in each column. The first column identifies the social behavior data analysis form from which the finding is reported. The second column identifies, by number, the subject that produced the data. The third column identifies the sessions during which the data were produced. The fourth column identifies the condition changes, A-B-A, or a-b-a, occurring over the session period. The fifth column identifies the result by a number, to be used later for further summaries. In the sixth column the result is listed as a positive, negative, or not a functional relationship.

In the sample form, the results from the 1A Social Behavior Data Analysis Form are listed. Finding #1 is derived from the data on task performance as conditions changed from A to B to A over a period of 18 sessions. Finding #2 is derived from data on task performance as conditions changed from a to b to a during the first A condition: the feedback, no feedback, feedback condition changes occurring during the first individual contingency, A, Sessions 1-6. Finding #3 is derived from task performance data for the same a-b-a changes which occurred this time during the competitive contingent condition, B, Sessions 7-12. Finding #4 is derived from performance data for the a-b-a changes which occurred during the final individual contingency, A, Sessions 13-18.

Summary Result Form

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
1A	1	1-18	A Individual Contingency B. Competitive Contingency A Individual Contingency	1.	P.O.T. was a positive function of the competitive contingency
		1-6	A Individual Contingency a. Feedback b. No Feedback a. Feedback	2.	P.O.T. was a positive function of feedback
		7-12	B Competitive Contingency a. Feedback b. No Feedback a. Feedback	3.	P.O.T. was a positive function of feedback
		13-18	A Individual Contingency a. Feedback b. No Feedback a. Feedback	4.	P.O.T. was not a function of feedback
1B	1	1-18	A Individual Contingency B Competitive Contingency A Individual Contingency	5.	The correlation between P.O.T. and F.O.S. was a positive function of the competitive contingency

The summary result form for the B and C type Social Behavior Analysis Forms are also provided. Finding #5 describes the relationship between the performance on task and feedback on Self correlation and the competitive contingency. This relationship was based on data generated by S1 during Session 1-18. The data were presented in the type B Social Data Analysis Form.

Findings 6, 7, and 8 describe the relationships between the multiple correlation between POT, FOS, and FOO and the competitive contingency. One of the multiple correlations was not a function of the competitive contingency, 6, and the other two were a negative function of the contingency, 7 and 8. These findings were based on data generated by S1 during Session 1-18. The data were presented in the type C Social Behavior Data Analysis Forms.

After results have been listed and identified by a number in the summary result forms, the findings are collated to determine the frequency of each finding. The frequency of a given relationship/frequency of all relationships (positive, negative, and no functions) constitutes a probability statement for the finding. For example, if performance was a positive function of a competitive contingency five times, a negative function twice, and not a function once, the probability for performance being a positive function would be 5/8 or .66, a negative function 2/8 or .25, and not a function .16. The following table is a sample frequency chart for computing probabilities.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
1C	1	1-18	A Individual Contingency B Competitive Contingency A Individual Contingency	6.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was not a function of the competitive contingency
				7.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was a negative function of the competitive contingency
				8.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was a negative function of the competitive contingency

Frequency Chart #1

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task is a positive function of a competitive contingency	1, 8, 9, 14	4
Performance on task is a negative function of a competitive contingency	2, 7, 10, 11	4
Performance on task is not a function of a competitive contingency	3, 6, 13, 15	4

In the left column the relationship is identified, in the center column the summary results supporting the relationship is identified, and in the right column the frequency of the finding is totaled. In addition to listing frequency totals, this chart allows one to trace the support findings back to the summary result forms, and to the Social Behavior Data Analysis Form, which provided the raw data from which the finding was derived: the means, standard deviations, correlations and multiple correlations.

Probability statements drawn from the frequency charts are listed in the probability chart. In the sample below, the left column of the chart lists the probability statement derived from the frequency chart and the right column lists the frequency chart from hwich the probability statement was drawn.

Probability Chart

Probability Statement	Frequency Chart #
The probability that performance will be a positive function of a competitive contingency is .33	1
The probability that performance will be a negative function of a competitive contingency is .33	2
The probability that performance will not be a function of a competitive contingency is .33	1

Summary of Data Analysis System

The system of data analysis employed in social behavior research has seven steps. In Step 1 a study is undertaken during which students generate data for analysis. In Step 2 the data is analyzed via the computor to calculate means, standard deviations, correlations, and multiple correlations. In Step 3 the computed statistics are presented on the Social Behavior Data Analysis Forms. In Step 5 the results are listed in frequency charts. In Step 6 the frequencies of each relationship are converted into probability statements listed in the Probability Chart. Finally in Step 7, the probability statements are listed in reports and manuscripts for dissemination. The following flow chart graphically illustrates each step and chart or form employed at that state:

Step 1: Data Produced in a Study

Step 2: Data Analyzed by Computor to Produce
A Type Printouts:

N. $\bar{X}$, Standard Deviation Printouts

B Type Printouts:

Correlation Printouts

C Type Printouts:

Multiple Correlation Printouts

Step 3: Data presented on Social Behavior Data Analysis Forms A

N. $\overline{X}$, Standard Deviation in A-B-A Format

Forms B

Correlations in A-B-A Format

Forms C

Multiple Correlations in A-B-A Format

Step 4: Results listed on Summary Result Forms:

Statements of Functional Relationships
Between Dependent and Independent Variables

Step 5: Summary results listed on Frequency Chart

Summary Statements of Functional Relationships Between Dependent and Independent Variables

Step 6: Summary results listed for Probability Statements

Probability Statements for Functional Relationships Between Dependent and Independent Variables

Step 7: Probability statements together with conditions that produced the relationships listed in reports and manuscripts for dissemination

2. Findings

Basic research activities include feedback and social contingency manipulations with recorded observations of feedback and social interaction responses (see Table 6 in previous section on independent and dependent variables of the study). The first set of findings and corresponding probability statements were produced in dyad studies with Ss working on Social Behavior Console #1.

Feedback manipulations included feedback present or absent conditions. During feedback conditions dyad members pressed a light switch button to observe 1) how many task points they earned, 2) how many task points their partner earned, and 3) how many reward points they earned for surpassing their partner's task counter totals.

Social contingency manipulations included 1) competitive contingencies present or absent (with competitive contingency referring to the reinforcement contingent upon earning more task points than another), 2) greater or lesser competitive contingencies (during which greater number of reward points were delivered for winning in one competitive condition than in another), 3) positive or negative competitive contingencies (during which reward point deliveries were contingent upon earning more task points (positive) or less task points (negative) than Partner) and 4) competitive contingency paired with a work-reward ratio or presented without the ratio (with a work-reward referring to the number of points earned in return for one cent).

The dependent variables were task performance (students' rates of pressing their task button switch) and feedback behavior (students' rates of pressing their light switch button for their own task counter, feedback on Self; their partner's task counter, feedback on Other; and their own reward counter, feedback on reward).

Nine students comprising five two-person groups (one student participated in two different groups) participated in the dyad studies over a period of one year. The information resulting from this work contributes to our understanding of the reinforcing power of social feedback during competitive contingencies. Recent experimental research elsewhere[1] has measured similar dependent variables, i.e., feedback on Self and Other during cooperative and individual contingencies, and has yielded results comparable to those reported in the following section.

[1] Hake, D. F.; Vukelich, R.; Kaplan, S. J. Audit responses: responses maintained by access to existing self or coactor scores during non-social parallel work, and cooperation procedures. Journal of Experimental Analysis of Behavior, 1973, 19, 409-423.

a. List of Probability Statements for Basic Research Activities

Progress Reports 2 and 3 presented data on Social Behavior Data Analysis Forms and Report 3 summarized those data on Summary Result Forms (See Appendix C). In this section the summary results are tabulated in frequency charts to compute probabilities for findings listed later in the probability chart. In Frequency Charts 1-24 the relationships between feedback and the variables performance on task, feedback on Self, feedback on Other, and feedback on competitive contingency rewards are listed. In Frequency Charts 25-60 the relationships between performance on task, feedback response, competitive contingencies, and work-reward ratios are listed.

Frequency Chart #1

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback	13,29,33,37,45,61,65 85,93,217,221,233,285, 305,321,329,337,341	18
Performance on task was a negative function of feedback	49,117	2
Performance on task was not a function of feedback	1,53,69,77,81,97,101, 121,125,225,237,241, 249,253,257,265,269 273,281,289,297,301, 325,345	24

Frequency Chart #2

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of feedback	2,14,30,34,38,46,50,54, 62,66,70,82,86,94,98 102,118,122,126,222,226, 238,242,250,254,258,266, 270,274,282,286,290,298, 302,306,322,326,330,338, 342,346	41

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a negative function of feedback	0	0
Feedback on Self was not a function of feedback	78,218,234	3

Frequency Chart #3

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback	3,15,31,35,39,47,51, 55,63,67,71,79,83,87, 99,103,119,123,127,223, 227,239,243,251,255,259, 267, 271,275,283,291,299, 303,307,323,327,331,339, 343,347	40
Feedback on Other was a negative function of feedback	0	0
Feedback on Other was not a function of feedback	95,219,235,287	4

Frequency Chart #4

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of feedback	40,56,72,100,104,124, 128,224,288	9
Feedback on reward was a negative function of feedback	36,48,80,84,220,228, 240,252,304	9
Feedback on reward was not a function of feedback	4,16,32,52,64,68,88,96, 120,236,244,256,260,268 272,276,284,292,300,308, 327,328,332,340,344,348	26

Frequency Chart #5

Finding	Summary Result Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback during the competitive contingent reward	29,37,61,217,233	5
Performance on task was a negative function of feedback during the competitive contingent reward	0	0
Performance on task was not a function of feedback during the competitive contingent reward	69,97,121,225,241,249 257,265,273	9

Frequency Chart #6

Finding	Summary Result Supporting the Finding	Total Frequency
Feedback on Self was a positive function of feedback during the competitive contingent reward	30,38,62,70,98,122,226 242,250,258,266,274	12
Feedback on Self was a negative function of feedback during the competitive contingent reward	0	0
Feedback on Self was not a function of feedback during the competitive contingent reward	218,234	2

Frequency Chart #7

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback during the competitive contingent reward	31,39,63,71,99,123,227, 243,251,259,267,275	12
Feedback on Other was a negative function of feedback during the competitive contingent reward	0	0
Feedback on Other was not a function of feedback during the competitive contingent reward	219,235	2

Frequency Chart #8

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of feedback during the competitive contingent reward	32,40,72,100,124	5
Feedback on reward was a negative function of feedback during the competitive contingent reward	220,228,252	3
Feedback on reward was not a function of feedback during the competitive contingent reward	64,236,244,260,268,276	6

Frequency Chart #9

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback during the work-reward ratio	93	1
Performance on task was a negative function of feedback during the work-reward ratio	117	1
Performance on task was not a function of feedback during the work-reward ratio	101,125	2

Frequency Chart #10

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of feedback during the work-reward ratio	94,102,118,126	4
Feedback on Self was a negative function of feedback during the work-reward ratio	0	0
Feedback on Self was not a function of feedback during the work-reward ratio	0	0

Frequency Chart #11

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback during the work-reward ratio	103,119,127	3
Feedback on Other was a negative function of feedback during the work-reward ratio	0	0

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was not a function of feedback during the work-reward ratio	95	1

Frequency Chart #12

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of feedback during the work-reward ratio	104,128	2
Feedback on reward was a negative function of feedback during the work-reward ratio	0	0
Feedback on reward was not a function of feedback during the work-reward ratio	96,120	2

Frequency Chart #13

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback during the competitive contingency and work-reward ratio	33,65,221,305,341	5
Performance on task was a negative function of feedback during the competitive contingency with work-reward ratio	0	0
Performance on task was not a function of feedback during the competitive contingency with work-reward ratio	237,253,269,281,289 297,325	7

Frequency Chart #14

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of feedback during the competitive contingency with work-reward ratio	34,66,222,238,254,270, 282,290,298;306,326 342	12
Feedback on Self was a negative function of feedback during the competitive contingency with work-reward ratio	0	0
Feedback on Self was not a function of feedback during the competitive contingency with work-reward ratio	0	0

Frequency Chart #15

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback during the competitive contingency with work-reward ratio	35,67,223,239,255,271, 283,291,299,307,327,343	12
Feedback on Other was a negative function of feedback during the competitive contingency with work-reward ratio	0	0
Feedback on Other was not a function of feedback during the competitive contingency with work-reward ratio	0	0

Frequency Chart #16

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of feedback during the competitive contingency with work-reward ratio	224	1
Feedback on reward was a negative function of feedback during the competitive contingency with work-reward ratio	36,240	2
Feedback on reward was not a function of feedback during the competitive contingency with work-reward ratio	68,256,272,284,292,300,308,328,344	9

Frequency Chart #17

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback during the work-reward ratio	45,85,321,329,337	5
Performance on task was a negative function of feedback during the work-reward ratio	0	0
Performance on task was not a function of feedback during the work-reward ratio	53,77,345	3

Frequency Chart #18

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive Function of feedback during the work-reward ratio	46,54,86,322,330,338,346	7

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a negative function of feedback during the work-reward ratio	0	0
Feedback on Self was not a function of feedback during the work-reward ratio	78	1

Frequency Chart #19

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback during the work-reward ratio	47,55,79,87,323,331 339,347	8
Feedback on Other was a negative function of feedback during the work-reward ratio	0	0
Feedback on Other was not a function of feedback during the work-reward ratio	0	0

Frequency Chart #20

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of feedback during the work-reward ratio	56	1
Feedback on reward was a negative function of feedback during the work-reward ratio	48,80	2
Feedback on reward was not a function of feedback during the work-reward ratio	88,324,332,340,348	5

Frequency Chart #21

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of feedback during the negative competitive contingency and work-reward ratio	285	1
Performance on task was a negative function of feedback during the negative competitive contingency and work-reward ratio	49	1
Performance on task was not a function of feedback during the negative competitive contingency and work-reward ratio	81,301	2

Frequency Chart #22

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of feedback during the negative competitive contingency and work-reward ratio	50,82,286,302	4
Feedback on Self was a negative function of feedback during the negative competitive contingency and work-reward ratio	0	0
Feedback on Self was not a function of feedback during the negative competitive contingency and work-reward ratio	0	0

Frequency Chart #23

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of feedback during the negative competitive contingency and work-reward ratio	51,83,303	3
Feedback on Other was a negative function of feedback during the negative competitive contingency and work-reward ratio	0	0
Feedback on Other was not a function of feedback during the negative competitive contingency and work-reward ratio	287	1

Frequency Chart #24

Finding	Summary Result # Supporting the Finding	Frequency
Feedback on reward was a positive function of feedback during the negative competitive contingency and work-reward ratio	288	1
Feedback on reward was a negative function of feedback during the negative competitive contingency and work-reward ratio	34,304	2
Feedback on reward was not a function of feedback during the negative competitive contingency and work-reward ratio	52	1

Frequency Chart #25

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of the competitive contingent reward	5,17,89,113,309,333	6
Performance on task was a negative function of the competitive contingent reward	9,313	2
Performance on task was not a function of the competitive contingent reward	21,317	2

Frequency Chart #26

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of the competitive contingent reward	6,10,22,310	4
Feedback on Self was a negative function of the competitive contingent reward	18,90,314	3
Feedback on Self was not a function of the competitive contingent reward	114,318,334	3

Frequency Chart #27

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of the competitive contingent reward	7,11,23,311,315	5

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a negative function of the competitive contingent reward	19,91	2
Feedback on Other was not a function of the competitive contingent reward	115,319,335	3

Frequency Chart #28

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of the competitive contingent reward	8,12,20,24,116	5
Feedback on reward was a negative function of the competitive contingent reward	92	1
Feedback on Other was not a function of the competitive contingent reward	312,316,320,336	4

Frequency Chart #29

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of the work-reward ratio	25,57,213,229,245,261	6
Performance on task was a negative function of the work-reward ratio	0	0
Performance on task was not a function of the work-reward ratio	0	0

Frequency Chart #30

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of the work-reward ratio	26,230,246,262	4
Feedback on Self was a negative function of the work-reward ratio	0	0
Feedback on Self was not a function of the work-reward ratio	58,214	2

Frequency Chart #31

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of the work-reward ratio	231,247	2
Feedback on Other was a negative function of the work-reward ratio	0	0
Feedback on Other was not a function of the work-reward ratio	27,59,215,263	4

Frequency Chart #32

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of the work-reward ratio	0	0
Feedback on reward was a negative function of the work-reward ratio	232,248,264	3
Feedback on reward was not a function of the work-reward ratio	28,60,216	3

Frequency Chart #33

Finding	Summary Result # Supporting the Finding	Total Frequency
Performance on task was a positive function of the negative competitive contingent reward	0	0
Performance on task was a negative function of the negative competitive contingent reward	73,277,293	3
Performance on task was not a function of the negative competitive contingent reward	41	1

Frequency Chart #34

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Self was a positive function of the negative competitive contingent reward	0	0
Feedback on Self was a negative function of the negative competitive contingent reward	74	1
Feedback on Self was not a function of the negative competitive contingent reward	42,278,294	3

Frequency Chart #35

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on Other was a positive function of the negative competitive contingent reward	75	1
Feedback on Other was a negative function of the negative competitive contingent reward	0	0
Feedback on Other was not a function of the negative competitive contingent reward	43,279,295	3

Frequency Chart #36

Finding	Summary Result # Supporting the Finding	Total Frequency
Feedback on reward was a positive function of the negative competitive contingent reward	76,280,296	3
Feedback on reward was a negative function of the negative competitive contingent reward	0	0
Feedback on reward was not a function of the negative competitive contingent reward	44	1

Frequency Chart #37

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and P.O.T. was a positive function of the work-reward ratio	137,156,393,412	4
The correlation between P.O.T. and P.O.T. was a negative function of the work-reward ratio	355,374	2
The correlation between P.O.T. and P.O.T. was not a function of the work-reward ratio	0	0

Frequency Chart #38

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.S. was a positive function of the work-reward ratio	0	0
The correlation between P.O.T. and F.O.S. was a negative function of the work-reward ratio	157,356,413	3
The correlation between P.O.T. and F.O.S. was not a function of the work-reward ratio	138,375,394	3

Frequency Chart #39

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.O. was a positive function of the work-reward ratio	0	0
The correlation between P.O.T. and F.O.O. was a negative function of the work-reward ratio	414	1
The correlation between P.O.T. and F.O.O. was not a function of the work-reward ratio	139,158,357,376,395	5

Frequency Chart #40

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.R. was a positive function of the work-reward ratio	377	1
The correlation between P.O.T. and F.O.R. was a negative function of the work-reward ratio	0	0
The correlation between P.O.T. and F.O.R. was not a function of the work-reward ratio	140,159,353,396,415	5

Frequency Chart #41

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.O. was a positive function of the work-reward ratio	0	0
The correlation between F.O.S. and F.O.O. was a negative function of the work-reward ratio	160,359,416	3
The correlation between F.O.S. and F.O.O. was not a function of the work-reward ratio	141,378,397	3

Frequency Chart #42

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.R. was a positive function of the work-reward ratio	0	0
The correlation between F.O.S. and F.O.R. was a negative function of the work-reward ratio	142,398,417	3
The correlation between F.O.S. and F.O.R. was not a function of the work-reward ratio	161,360,379	3

Frequency Chart #43

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.O. and F.O.R. was a positive function of the work-reward ratio	0	0

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.O. and F.O.R. was a negative function of the work-reward ratio	143,380	2
The correlation between F.O.O. and F.O.R. was not a function of the work-reward ratio	162,361,399,418	4

Frequency Chart #44

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and P.O.T. was a positive function of the positive competitive contingent reward	175,194,469,488,507, 526	6
The correlation between P.O.T. and P.O.T. was a negative function of the positive competitive contingent reward	0	0
The correlation between P.O.T. and P.O.T. was not a function of the positive competitive contingent reward	0	0

Frequency Chart #45

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.S. was a positive function of the positive competitive contingent reward	0	0
The correlation between P.O.T. and F.O.S. was a negative function of the positive competitive contingent reward	176,195,489	3

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.S. was not a function of the positive competitive contingent reward	470,508,527	3

Frequency Chart #46

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.O. was a positive function of the positive competitive contingent reward	196,490	2
The correlation between P.O.T. F.O.O. was a negative function function of the positive competitive contingent reward	177	1
The correlation between P.O.T. and F.O.O. was not a function of the positive competitive contingent reward	471,509,528	3

Frequency Chart #47

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.R. was a positive function of the positive competitive contingent reward	472	1
The correlation between P.O.T. and F.O.R. was a negative function of the positive competitive contingent reward	0	0
The correlation between P.O.T. and F.O.R. was not a function of the positive competitive contingent reward	178,197,491,510,529	5

Frequency Chart #48

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.O. was a positive function of the positive competitive contingent reward	179,198,492	3
The correlation between F.O.S. and F.O.O. was a negative function of the positive competitive contingent reward	473,530	2
The correlation between F.O.S. and F.O.O. was not a function of the positive competitive contingent reward	511	1

Frequency Chart #49

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.R. was a positive function of the positive competitive contingent reward	474,512	2
The correlation between F.O.S. and F.O.R. was a negative function of the positive competitive contingent reward	531	1
The correlation between F.O.S. and F.O.R. was not a function of the positive competitive contingent reward	180,199,493	3

Frequency Chart #50

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.O. and F.O.R. was a positive function of the positive competitive contingent reward	0	0
The correlation between F.O.O. and F.O.R. was a negative function of the positive competitive contingent reward	0	0
The correlation between F.O.O. and F.O.R. was not a function of the positive competitive contingent reward	181,200,475,494,513 532	6

Frequency Chart #51

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and P.O.T. was a positive function of the negative competitive contingent reward	431,450	2
The correlation between P.O.T. and P.O.T. was a negative function of the negative competitive contingent reward	0	0
The correlation between P.O.T. and P.O.T. was not a function of the negative competitive contingent reward	0	0

Frequency Chart #52

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.S. was a positive function of the negative competitive contingent reward	432	1
The correlation between P.O.T. and F.O.S. was a negative function of the negative competitive contingent reward	0	0
The correlation between P.O.T. and F.O.S. was not a function of the negative competitive contingent reward	451	1

Frequency Chart #53

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.O. was a positive function of the negative competitive contingent reward	0	0
The correlation between P.O.T. and F.O.O. was a negative function of the negative competitive contingent reward	433	1
The correlation between P.O.T. and F.O.O. was not a function of the negative competitive contingent reward	452	1

Frequency Chart #54

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between P.O.T. and F.O.R. was a positive function of the negative competitive contingent reward	0	0
The correlation between P.O.T. and F.O.R. was a negative function of the negative competitive contingent reward	0	0
The correlation between P.O.T. and F.O.R. was not a function of the negative competitive contingent reward	434,453	2

Frequency Chart #55

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.O. was a positive function of the negative competitive contingent reward	0	0
The correlation between F.O.S. and F.O.O. was a negative function of the negative competitive contingent reward	435	1
The correlation between F.O.S. and F.O.O. was not a function of the negative competitive contingent reward	454	1

Frequency Chart #56

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.S. and F.O.R. was a positive function of the negative competitive contingent reward	0	0
The correlation between F.O.S. and F.O.R. was a negative function of the negative competitive contingent reward	436	1
The correlation between F.O.S. and F.O.R. was not a function of the negative competitive contingent reward	455	1

Frequency Chart #57

Finding	Summary Result # Supporting the Finding	Total Frequency
The correlation between F.O.O. and F.O.R. was a positive function of the negative competitive contingent reward	437	1
The correlation between F.O.O. and F.O.R. was a negative function of the negative competitive contingent reward	0	0
The correlation between F.O.O. and F.O.R. was not a function of the negative competitive contingent reward	456	1

Frequency Chart #58

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a positive function of the work-reward ratio	0	0
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a negative function of the work-reward ratio	163,362,419	3
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was not a function of the work-reward ratio	144,331,400	3
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the work-reward ratio	164,363	2
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was not a function of the work-reward ratio	145,332,401,420	4
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a negative function of the work-reward ratio	146,165,364	3

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was not a function of the work-reward ratio	393,402,421	3
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a negative function of the work-reward ratio	166,365,422	3
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the work-reward ratio	147,384,403	3
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a negative function of the work-reward ratio	167,366,423	3
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was not a function of the work-reward ratio	148,385,404	3
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a negative function of the work-reward ratio	367	1

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the work-reward ratio	149,168,386,405,424	5
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a negative function of the work-reward ratio	169,368,387,425	4
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the work-reward ratio	150,406	2
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a negative function of the work-reward ratio	170,369,338,426	4
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was not a function of the work-reward ratio	151,407	2
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a positive function of the work-reward ratio	152	1
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a negative function of the work-reward ratio	370	1

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the work-reward ratio	171,389,403,427	4
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a negative function of the work-reward ratio	371,409	2
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the work-reward ratio	153,172,390,428	4
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a positive function of the work-reward ratio	0	0
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a negative function of the work-reward ratio	0	0
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was not a function of the work-reward ratio	154,173,372,391,410,429	6
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was a positive function of the work-reward ratio	155,430	2
The multiple correlation between F.O.O. and F.O.S. - F.O.O. was a negative function of the work-reward ratio	373	1

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the work-reward ratio	174,392,411	3
Frequency Chart #52		
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a positive function of the positive competitive contingent reward	182	1
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a negative function of the positive competitive contingent reward	476,495	2
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was not a function of the positive competitive contingent reward	201.514,533	3
The multiple correlation between F.O.S. and P.O.T. - F.O.O.was a positive function of the positive competitive contingent reward?	183,202	2
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the positive competitive contingent reward	515,534	2
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was not a function of the positive competitive contingent reward	477,496	2
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a positive function of the positive competitive contingent reward	184,203	2

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a negative function of the positive competitive contingent reward	478,516,535	3
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was not a function of the positive competitive contingent reward	497	1
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a positive function of the positive competitive contingent reward	185	1
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a negative function of the positive competitive contingent reward	498	1
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the positive competitive contingent reward	204,479,517,536	4
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the positive competitive contingent reward	186,205,537	3
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a negative function of the positive competitive contingent reward	0	0
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was not a function of the positive competitive contingent reward	480,499,518	3
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a positive function of the positive competitive contingent reward	481,538	2

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a negative function of the positive competitive contingent reward	519	1
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the positive competitive contingent reward	187,206,500	3
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a positive function of the positive competitive contingent reward	0	0
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a negative function of the positive competitive contingent reward	207,482,501	3
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the positive competitive contingent reward	188,520,539	3
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a positive function of the positive competitive contingent reward	189	1
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a negative function of the positive competitive contingent reward	208,483,502	3
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was not a function of the positive competitive contingent reward	521,540	2
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a positive function of the positive competitive contingent reward	0	0

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a negative function of the positive competitive contingent reward	522	1
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the positive competitive contingent reward	190,209,484,503,541	5
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a positive function of the positive competitive contingent reward	210,485,504	3
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a negative function of the positive competitive contingent reward	523,542	2
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the positive competitive contingent reward	191	1
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a positive function of the positive competitive contingent reward	192,211	2
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a negative function of the positive competitive contingent reward	524,543	2
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was not a function of the positive competitive contingent reward	486,505	2
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was a positive function of the positive competitive contingent reward	213,487	2

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.O and F.O.S. - F.O.O. was a negative function of the positive competitive contingent reward	0	0
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the positive competitive contingent reward	193,506,525,544	4
Frequency Chart #60		
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a positive function of the negative competitive contingent reward	438	1
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between P.O.T. and F.O.S. - F.O.O. was not a function of the negative competitive contingent reward	457	1
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a positive function of the negative competitive contingent reward	439	1
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.S. and P.O.T. - F.O.O. was not a function of the negative competitive contingent reward	458	1

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.S. was not a function of the negative competitive contingent reward	440,459	2
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a positive function of the negative competitive contingent reward	441	1
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the negative competitive contingent reward	460	1
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the negative competitive contingent reward	442	1
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.S. and P.O.T. - F.O.R. was not a function of the negative competitive contingent reward	461	1

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the negative competitive contingent reward	443,462	2
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the negative competitive contingent reward	444,463	2
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and P.O.T. - F.O.R. was not a function of the negative competitive contingent reward	448,464	2

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the negative competitive contingent reward	446,465	2
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a negative function of the negative competitive ctontingent reward	0	0
The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the negative competitive contingent reward	447,466	2
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and F.O.S. - F.O.R. was not a function of the negative competitive contingent reward	448,466	2

Finding	Summary Result # Supporting the Finding	Total Frequency
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was a positive function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.O. and F.O.S. - F.O.O. was a negative function of the negative competitive contingent reward	0	0
The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the negative competitive contingent reward	444,467	2

The findings from these frequency charts allow one to make probability statements by dividing the frequency of the finding by the total frequency of all findings in that category. This has been done for selected findings in the following table:

Table Summary of Selected
Probability Statements

Statements #	Probability Statements	Frequency Chart #
1.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations is .40.	1
2.	The probability that feedback on Self will be positively reinforcing during face to face interaction situations while working on an independent task is .93.	2
3.	The probability that feedback on Other will be reinforcing during face to face interaction situations while working on an independent task is .90.	3
4.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations under a positive competitive contingency is .35.	5
5.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies is .85.	6
6.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies is .85.	7
7.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under non-competitive individual contingencies is 1.00.	10

Statement #	Probability Statements	Frequency Chart #
8.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under non-competitive individual contingencies is .75.	11
9.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations under positive competitive contingencies and work-reward ratios is .41.	13
10.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies and work-reward ratios is 1.00.	14
11.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies and work-reward ratios is 1.00.	15
12.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations under work-reward ratios is .62.	17
13.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under work-reward ratios is .87.	18
14.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under work-reward ratios is 1.00.	19
15.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations under negative competitive contingencies and work-reward ratios is .25.	21

Statements #	Probability Statements	Frequency Chart #
16.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under a negative competitive contingency and work-reward ratios is 1.00	22
17.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under a negative competitive contingency and work-reward ratio is .75.	23
18.	The probability that a competitive contingency will increase performance on an independent task in face to face interaction situations is .60.	25
19.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies is .40.	26
20.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under positive competitive contingencies is .50.	27
21.	The probability that feedback will positively reinforce performance on an independent task in face to face interaction situations under work-reward ratios is 1.00.	29
22.	The probability that feedback on Self will be positively reinforcing in face to face interaction situations while working on an independent task under work-reward ratios is .66.	30
23.	The probability that feedback on Other will be positively reinforcing in face to face interaction situations while working on an independent task under work-reward ratios is .33.	31

Statement #	Probability Statements	Frequency Chart #
24.	The probability that feedback on Self's wins will be positively reinforcing in face to face interaction situations while working on an independent task under negative competitive contingencies is .75.	36
25.	The probability that a work-reward ratio will increase the correlation between Self and Other's performance on an independent task in face to face interaction situations is .66.	37
26.	The probability that a positive competitive contingency will increase the correlation between Self and Other's performance on an independent task in face to face interaction situations is 1.00.	44
27.	The probability that a positive competitive contingency will increase the correlation between feedback on Self and Other while working on an independent task in face to face interaction situations is .50.	48
28.	The probability that a negative competitive contingency will increase the correlation between Self and Other's performance on an independent task in face to face interaction situations is 1.00.	51
29.	The probability that a work-reward ratio will decrease the multiple correlation between performance on task and the feedback on Self and Other taken together while working on an independent task in face to face interaction situations is .50.	58
30.	The probability that a work-reward ratio will decrease the multiple correlation between performance on task and the feedback on Self's performance and competitive wins while working on an independent task in face to face interaction situations is .66.	58

b. Conclusions from Probability Statements

1. There is a greater probability that feedback will positively reinforce performance on an independent task in face to face interaction situations during work-reward ratio conditions than during positive competitive contingencies and work-reward ratios, positive competitive contingencies, or negative competitive contingencies.

2. There is a greater probability that feedback will positively reinforce performance on an independent task in face to face interaction situations during positive competitive contingencies and work-reward ratios than during positive competitive contingencies or negative competitive contingencies.

3. There is a greater probability that feedback will positively reinforce performance on an independent task in face to face interaction situations during positive competitive contingencies than during negative competitive contingencies.

4. There is a greater probability that performance will increase during positive competitive contingencies and work-reward ratios than during a positive competitive contingency alone.

5. There is a greater probability that feedback on Self's performance will be positively reinforcing during positive or negative competitive contingencies with work-reward ratios than during work-reward ratio conditions or competitive contingencies alone.

6. There is a greater probability that feedback on Self's performance will be positively reinforcing during work reward ratio conditions than during competitive contingencies.

7. There is a greater probability that work-reward ratio conditions will increase Self's seeking feedback on his performance than will competitive contingencies.

8. There is a greater probability that feedback on Other's performance will be positively reinforcing during positive competitive contingencies with work-reward ratios than during positive work-reward ratio conditions or positive competitive contingencies.

9. There is a greater probability that feedback on Other's performance will be positively reinforcing during work-reward ratio conditions than during positive competitive contingencies.

10. There is a greater probability that a competitive contingency will increase Self's seeking feedback on Other's performance than will work-reward ratios.

11. A positive competitive contingency has a higher probability than a work-reward ratio condition of increasing the correlation between Self and Other's performance on an independent task in a face to face interaction situation.

12. A negative competitive contingency has a higher probability than a work-reward ratio condition of increasing the correlation between Self and Other's performance on an independent task in a face to face interaction situation.

13. Although feedback on Self's performance may be reinforcing to Self, causing him to work in order to receive the information, the probability is not equally high that the information will increase his performance on an independent task in face to face interaction situations.

14. Although feedback on Other's performance may be reinforcing to Self, causing him to work in order to receive the information, the probability is not equally high that the information received will increase his performance on an independent task in face to face interaction situations.

15. While there is a higher probability that the competitive contingency will increase Self's seeking out information on Other's performance on a task, there is a higher probability that the work-reward ratio will increase Self's seeking out information on Self's own performance on the independent task in face to face interaction situations.

c. Conclusions from Selected Studies

Conclusions drawn from several related findings which constitute distinguishable studies are reported in separate manuscripts. This section lists the abstracts of these manuscripts, some of which are in a first draft status. The papers focus on the identification and development of procedures for identifying each of the social processes, and on the effects of feedback and competitive contingencies on social patterns and feedback behavior. Abstracts 1-3 describe investigations of identification procedures and Abstracts 4-6 describe investigations of social contingencies and feedback conditions.

(1) The Development of Procedures for Identifying Competitive Behavior in the Laboratory

This study identifies events in the competitive process that are characteristic of the pattern and can be employed to discriminate between competition and individual nonsocial behaviors. Competitors frequently seek out information on how they are doing vis-a-vis their fellow competitors. In addition, their performance is a function of some competitive contingency: a reward for surpassing another. The procedures developed in this study measure social comparisons and manipulate competitive contingencies while observing their effects on task performance. When subjects seek out information on how they are doing, as well as how another is doing on comparable tasks, and their task performance is a function of a competitive contingency, the investigator may infer that competition is present.

(2) The Development of Procedures for Identifying Cooperative Behavior in the Laboratory

This study identifies events in the cooperative process that are characteristic of the pattern and can be employed to discriminate between cooperative and other social or nonsocial behaviors. The laboratory measures employed to identify cooperation are production rates on interdependent tasks, (tasks requiring two or more persons for completion), and manipulations of task consequences (i.e., incentives for task achievements). By manipulating task consequences the experimenter can determine 1) if the data are produced accidentally (all three members accidentally working on the same task at the same time), or 2) if the members are working on the same task at the same time intentionally in order to enjoy the consequences of task achievement. When #2 occurs, task choice is a function of the reward delivery that is contingent upon task achievement. If two or more tasks are available and the incentives for completing a task change from an interdependent to another interdependent task or from an independent to an interdependent task, the coordinated behavior resulting can be explained by changes in the contingency. When coordinated behavior results, cooperation has been identified.

(3) The Development of Procedures for Identifying Exchange, Cooperation, and Competition in the Laboratory

This study describes a system of instrumentation that allows measures of exchange, cooperative, competitive, and individual responses in two-person groups. By manipulating exchange, cooperative, and competitive contingencies, changes in response choices indicate the social behavior present. During the exchange contingency (when Self's reward is contingent upon Other's responses, and Other's reward, in turn, is contingent upon Self's responses) the student may choose to work at giving points to his partner. During the cooperative contingency (when Self's rewards are contingent upon responses from both Self and Other) both Self and Other choose to work on the same task to produce reward points together. During the competitive contingency (when Self's rewards are contingent upon achieving a higher task outcome than the Other) Self chooses to work for himself and to prevent Other from achieving reward points. In addition, the students seek out information on how much Other has given them in the exchange contingency, how much they have earned together during the cooperative contingency, and how much Self and Other have achieved on the individual response choices during the competitive contingency.

(4) The Effects of Competitive Contingencies and Work-Reward Ratios on Task Performance and Feedback Behaviors

This study investigated the relative effects on performance of competitive contingencies and a competitive contingency combined with a work-reward ratio. A competitive contingency is a reward for surpassing another and a work-reward ratio is a reward for X amount of work completed. The data from the two experiments indicated that the combination produced a higher level of task performance than when the competitive contingency was administered alone. In addition, the combination condition increased rates of seeking out information on Self and Other's progress on the task. Feedback on Self and Other was more reinforcing under the combined condition of competitive contingency together with the work-reward ratio.

(5) The Effects of Negative Competitive Contingencies on Exchange and Feedback Behaviors

This study presents data on the task performance of two-person groups which suggest interesting relationships between competitive contingencies and behavior. For one group a positive competitive contingency, a reward for achieving a higher rate than another, produced an exchange of wins between the group members. The negative competitive contingency, a reward for achieving a lower rate than another, eliminated that exchange pattern and produced competition. For another group the positive competitive contingency motivated competition, while the negative competitive contingency produced the exchange of win pattern. For both groups the introduction of the negative competitive contingency decreased performance dramatically.

These findings are evidence for caution when anticipating competition during competitive contingencies. The competitive contingency may or may not produce expected results, depending on the interaction history of group members. An alternative to competition is frequently available to group members who are willing to collude by exchanging wins.

(6) The Effects of Antecedent Schedules on Exchange, Cooperative, and Feedback Behaviors

This study examines the effects on an antecedent schedule of forced choice alternated with free choices to exchange and/or cooperate with another on a button press apparatus that produces reward points (backed by money) on electromechanical counters. The forced choices alternated with the free choices during ten one-minute trial sessions. The members of the dyad preferred to exchange rather than cooperate during the free choice periods of the even numbered trials. When the forced choice periods of the odd numbered trials only allowed S1 to cooperate in order to earn points, rates of exchanging points on subsequent free choice trials increased. In addition, feedback rates for looking at the receive (exchange) counters also were a function of the antecedent schedules for both Ss, while the rates for looking at the group (cooperative) counters were a function of the schedule for one S only. Furthermore, the feedback rates of looking at the receive counters were higher than for the group counters, suggesting that the former counter operations were more reinforcing than the latter.

d. Products of Basic Research

The products of basic research activities were two instrumentation systems developed to measure the social processes and the related feedback behavors. The first system measured Self's task behavior and his feedback responses to his own task performance, his partner's task performance, and rewards he received from earning more task points than his partner. The second system measured the students' rates of working for Self, working for Other, working with Other, stopping Other from working, and his feedback rates on points he earned, points Other earned, points Other gave him, points he and Other earned together, and points another two-person group earned. The following sections describe each of these instrumentation systems in detail.

1. Instrumentation System for Measuring Task and Feedback Behaviors

The apparatus illustrated in Figure 1 is designed to record Self's individual task achievement rate, Other's individual task achievement rate, Self's individual rewards for task achievement, feedback behavior on Self's individual task achievement rate, feedback behavior on Other's task achievement rate, and feedback behavior on Self's rewards for individual task achievement rate.

The console has two components, a response panel (the horizontal component), consisting of four button switches, and a display panel (the vertical component), consisting of an outer piece, a one-way mirror, which shields three electromechanical counters located within the console directly behind the mirror. Situated above each electromechanical counter is a light that flashes for .1 second when an appropriate button switch on the response panel is depressed. The light flash allows the person operating the console to see the counters tabulating points through the one-way mirror.

The three electromechanical counters in the display panel tabulate 1) Self's task achievements, called task points, on Self's Individual Task Counter; 2) Other's task achievements, also called task points, on Other's Individual Task Counter, and 3) Self's rewards, called reward points, on Self's Individual Reward Counter.

The four button switches on the response panel operate the individual task counters and the lights located above each of the counters. The Individual Task Response Button operates two counters, an Individual Task Counter on Self's console and also an Individual Task Counter on Other's console. The two individual task counters on both consoles are called Self's Individual Task Counter and Other's Individual Task Counter. The light switch button labeled Individual Feedback on Self's Individual

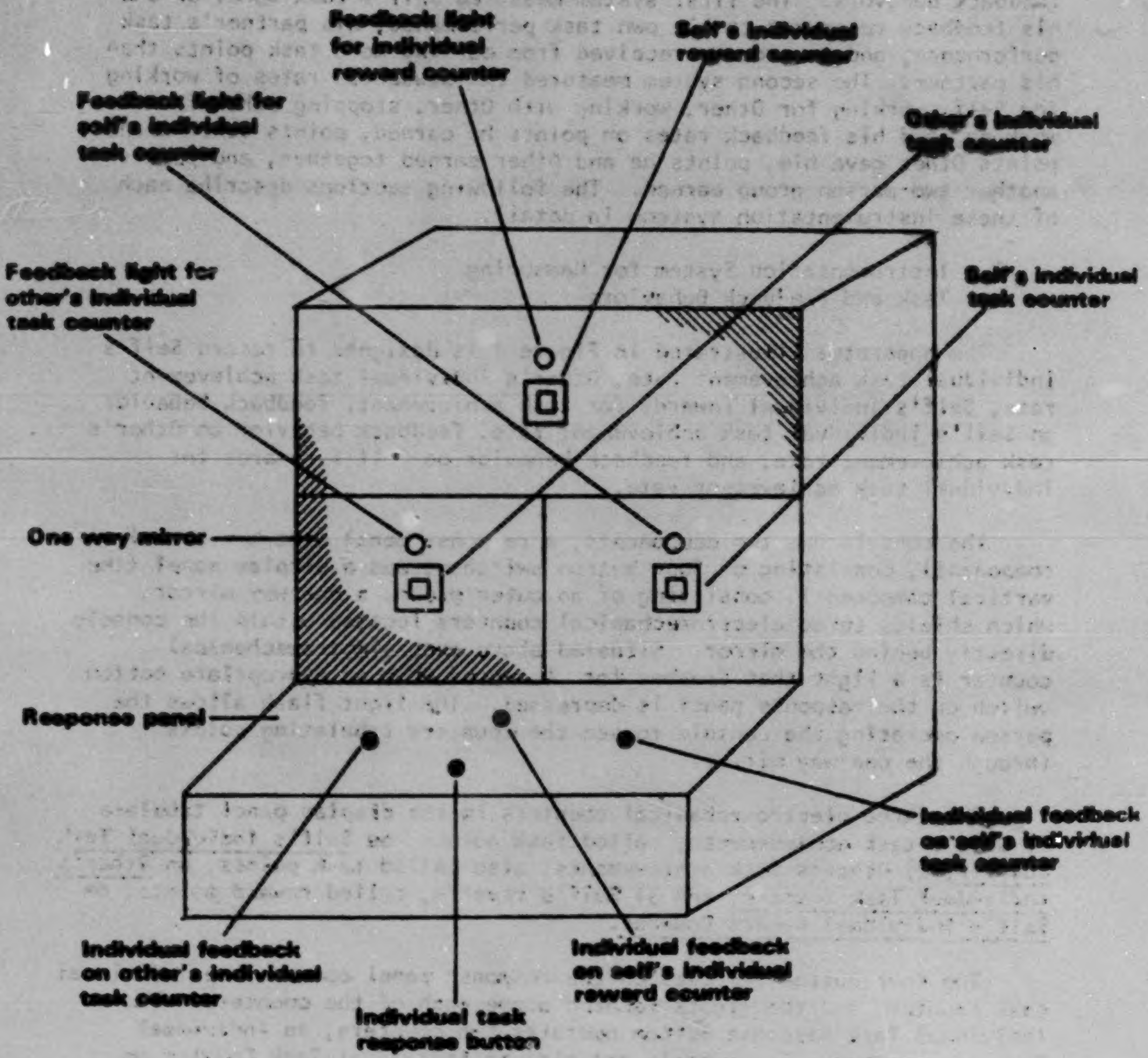

Feedback light for individual reward counter
Self's individual reward counter
Feedback light for self's individual task counter
Other's individual task counter
Feedback light for other's individual task counter
Self's individual task counter
One way mirror
Response panel
Individual feedback on self's indivivual task counter
Individual feedback on other's individual task counter
Individual feedback on self's individual reward counter
Individual task response button

Figure 1

Task Counter operates the light located above Self's Individual Task Counter. The light switch button labeled Individual Feedback on Other's Individual Task Counter operates the light located above Self's Individual Task Counter. The light switch button labeled Individual Feedback on Self's Individual Reward Counter operates the light located above Self's Individual Reward Counter.

Responses on the button switch are called counter switch responses when they operate an electromechanical counter within the student console, and light switch responses when they operate a light situated above one of the electromechanical counters.

The counter switch responses on the console operate the students' individual task counter and are also called his Individual Task Performance. However, the three light switch responses are called feedback responses only when the response rates are a function of the information recorded on the counters: increasing when information is provided and decreasing when it is withheld. The purpose of the first set of experimental procedures in the following section is to identify feedback behavior in the three categories: Feedback Behavior on Self's Individual Task Counter, Feedback Behavior on Other's Individual Task Counter, and Feedback Behavior on Self's Reward Counter.

(2) Instrumentation System for Measuring Social Processes and Related Feedback Behaviors

The apparatus illustrated in Figure 2 provides measures for identifying exchange, cooperation, and competition. The console has two components: a response panel (the horizontal component) consisting of nine button switches and nine indicator lights; and a display panel (the vertical component) consisting of an outer piece, a one-way mirror, which shields five electromechanical counters located within the console directly behind the mirror. Situated above each electromechanical counter is a light that flashes for .1 second when an appropriate button switch on the response panel is depressed. The light flash allows the person operating the console to see the counters tabulating points through the one-way mirror.

The variables measured on the console are in five categories. Listed in Category A are the components behind the one-way mirror: the counters and counter lights. Category B lists the button switches on the response panel that operate the counter lights. Category C lists the button switches on the response panel that operate the counters on Self and Other's consoles. Category D lists the light indicators located on the response panel. Category E lists the on-off lights for the button switches that operate the counters.

Category A

1. Feedback light for Other group's task counter
2. Other group's task counter
3. Feedback light for own group's task counter
4. Own group's task counter
5. Feedback light for Other's task counter
6. Other's task counter
7. Feedback light for your receive task counter
8. Your receive task counter
9. Feedback light for your earn task counter
10. Your earn task counter

Category B

1. Light switch for Other group's task counter
2. Light switch for own group's task counter
3. Light switch for Other's task counter
4. Light switch for your receive task counter
5. Light switch for your earn task counter

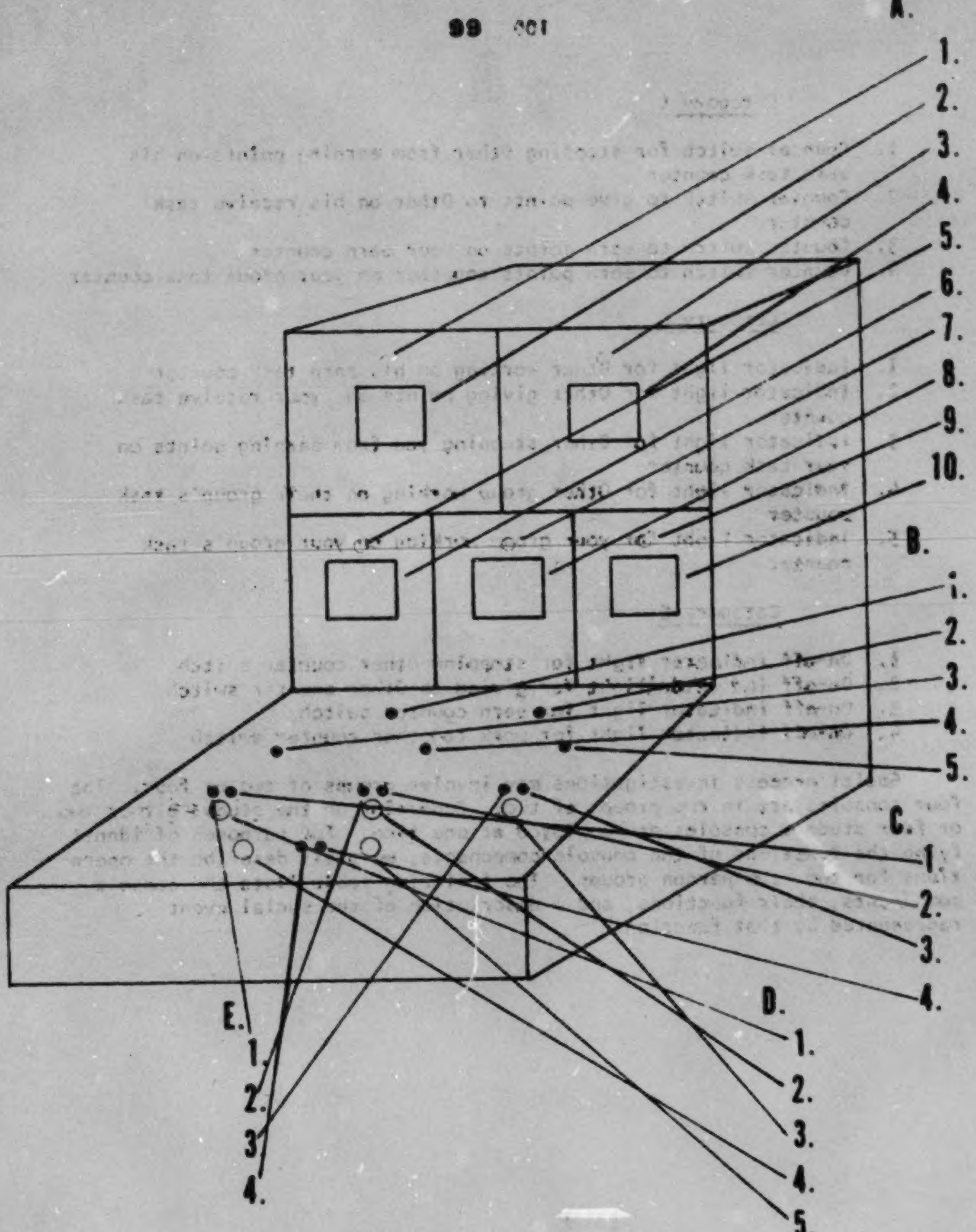


Figure 2

Category C

1. Counter switch for stopping Other from earning points on his earn task counter
2. Counter switch to give points to Other on his receive task counter
3. Counter switch to earn points on your earn counter
4. Counter switch to earn points together on your group task counter

Category D.

1. Indicator light for Other working on his earn task counter
2. Indicator light for Other giving points on your receive task counter
3. Indicator light for Other stopping you from earning points on your task counter
4. Indicator light for Other group working on their group's task counter
5. Indicator light for your group working on your group's task counter

Category E

1. On-off indicator light for stopping Other counter switch
2. On-off indicator light for giving to Other counter switch
3. On-off indicator light for earn counter switch
4. On-off indicator light for work together counter switch

Social process investigations may involve groups of two or four. The four consoles are in two groups of two. Depending on the study, either two or four student consoles are employed at one time. For purposes of identifying the functions of the console components, we shall describe the operations for two, two-person groups. The following table lists the console components, their functions, and a description of the social event represented by that function:

TABLE 10

STUDENT CONSOLE FUNCTION

Console Components	Console Functions	Function Descriptions
1. C-3 & A-10	When button switch C-3 is pressed a point is tabulated on task counter A-10 of Self's console and task counter A-6 of Other's console.	Self earns task points for himself by pressing this button switch.
2. B-5 & A-9	When button switch B-5 is pressed a light above Self's earn task counter A-10 flashes for .1 second (A-9).	Self sees how many task points are on his earn task counter by pressing this button switch.
3. C-2 & A-8	When button switch C-2 is pressed a point is tabulated on task counter A-8 of the Other's console.	Self gives task points to Other by pressing this button switch.
4. B-4 & A-7	When button switch B-4 is pressed a light above task counter A-8 flashes for .1 second (A-7).	Self sees how many task points Other has given him by pressing this button switch.
5. C-1 & A-6	When button switch C-1 is pressed points cannot be tabulated on task counter A-6 of Self's console and task counter A-10 of Other's console.	Self stops Other from earning task points on his task counter by pressing this button switch.
6. B-3 & A-5	When button switch B-3 is pressed a light above task counter A-6 flashes for .1 second (A-5).	Self sees how many task points Other has earned on his task counter.

Console Components	Console Functions	Function Descriptions
7. C-4 & A-4	When button switch C-4 on both Self and Other's consoles is pressed at the same time, a point is tabulated on task counter A-4 of Self and Other's consoles in Group 1 and task counter A-2 of Self and Other's consoles in Group 2.	Self and Other are earning task points together by pressing this button switch at the same time.
8. B-2 & A-3	When button switch B-2 is pressed a light above task counter A-4 flashes for .1 second (A-3).	Self sees how many task points he and Other have earned together on their group task counter.
9. C-4 & A-2	When Self and Other from Group 2 press button switch C-4, a point is tabulated on task counter A-2 of Group 1's consoles.	The Other group is earning points on their group task counter.
10. B-1 & A-1	When button switch B-1 is pressed a light above task counter A-2 flashes for .1 second (A-1).	Self sees how many task points the Other group has earned on their group's task counter.
11. C-3 & D-1	When Other presses button switch C-3 indicator light D-1 flashes on Self's console.	When this light flashes Other is earning task points on his earn task counter.
12. C-2 & D-2	When Other presses button switch C-2 indicator light D-2 flashes on Self's console.	When this light flashes Other is giving task points to Self on his receive task counter.

Console Components	Console Functions	Function Descriptions
13. C-1 & D-3	When Other presses button switch C-1, indicator light D-3 flashes on Self's console.	When this light flashes Other is stopping Self from earning points on his task counter.
14. C-4 & D-4	When Self and Other of Group 2 press switch C-4 together, indicator light D-4 flashes on Self and Other's consoles of Group 1.	When this light flashes the Other group members are working together to earn points on their group task Counter.
15. C-4 & D-5	When Self and Other press switch C-4 together, indicator light D-5 flashes on their console.	When this light flashes Self and Other are working together on their own group task counter.
16. E-1 & C-1	Light E-1 is on when button switch C-1 is operational.	When this light is on Self can stop Other from earning points by pressing button switch C-1.
17. E-2 & C-2	Light E-2 is on when button switch C-2 is operational.	When this light is on Self can give points to Other by pressing button switch C-2.
18. E-3 & C-3	When light E-3 is on button switch C-3 is operational.	When this light is on Self can earn points on his earn task counter by pressing button switch C-3.
19. E-4 & C-4	When light E-4 is on button switch C-4 is operational.	When this light is on Self and Other can earn points together by pressing button switch C-4 together.

During the exchange contingency, the response rates that should be a function of the contingency if exchange patterns develop are: counter switch responses on give points to Other task button (C-2) and light switch responses for Self's receive task counter (B-4). As conditions change from a baseline to an exchange contingency, the rates should increase, followed by corresponding decreases when the conditions change back to a second baseline.

During the cooperative contingency, the response rates that should be a function of the contingency if cooperative patterns develop are: counter switch responses on earn points together task button (C-4), and light switch responses for own group's task counter (B-2). As conditions change from a baseline to the cooperative contingency and then back to the baseline condition, the rates should increase and then decrease.

During the competitive contingency, the response rates likely to be a function of the contingency if competition develops are: counter switch responses on earn task counter (C-3), counter switch responses on stop Other from earning points task button (C-1), light switch responses on feedback light for Self's earn task counter (B-5), and light switch responses on feedback light for Other's earn task counter (B-3). As conditions change from baseline to the competitive contingency and then back to the baseline condition, the rates should increase and then decrease.

Social contingencies are implemented by manipulating the on-off indicator lights. Counter points return penny reinforcers for Self's earn counter, receive counter, and group counter. In addition, Self receives X cents for achieving a higher point total than Other on the earn task counter. A contingency is in effect when the appropriate on-off light is on, which enables the appropriate button switch. The exchange contingency is in effect when the E-2 lights are on for both consoles, permitting Self to give points to Other and Other to give points to Self. The cooperative contingency is in effect when E-4 lights are on for Self and Other's consoles, permitting Self and Other to work together to earn points on the group task counters. The competitive contingency is in effect when lights E-1 and E-3 are on, permitting Self to earn points on his earn task counter, and to stop Other from earning points on his earn task counter.

A single contingency or combination of the three contingencies can be instituted by manipulating the on-off lights which enable the corresponding button switches. This system permits detailed investigations on the effects of different contingency histories on social choices when all three response choices are available. How will persons choose to interact: cooperatively or competitively? Preferences for a given pattern of interaction can be developed by providing different histories of exchanging, cooperating, and competing, thereby controlling, more precisely, the development and maintenance of each social process.

B. Developmental Research

1. Introduction

The findings from developmental research are summarized in manuscripts describing separate studies. The abstracts described in the following section present these findings. Abstract #1 describes an investigation on the effects of shaping cooperative contingencies to control the cooperative task choice of three-person groups. Two groups of students participated in the study. The normal group responded appropriately while the retarded group failed to choose the more reinforcing alternative. The cooperative contingencies were then shaped to control this group's task choices. Abstract #2 investigated social choices of two, two-person groups. Here positive reinforcement and negative punishment were employed to control students' choices to exchange points earned from work on academic tasks. Abstract #3 describes an investigation that employed a social cue, the verbal instruction from the instructor, as an antecedent cue and a subsequent consequence to increase the academic performance of a five year old preschooler working on a letter discrimination program. Abstract #4 describes an investigation that employed cooperative contingencies, individual contingencies, and comparative feedback to increase the academic performance of two preschoolers.

2. Findings

a. Conclusions from Selected Studies

(1) The Effects of Shaping Cooperative Contingencies to Control the Task Choice of a Three-Person Group

This study presents findings consistent with a conclusion from a previous work by Mithaug (1969) that cooperation can be produced in an alternative task situation when the task conditions permit subjects to learn to discriminate between group and individual tasks in terms of their relative payoffs. The present study adds to this finding by investigating the task choice of a three-person group in an alternative group task situation. One normal and one retarded three-person group participated in the study. The normal group's task choice was a function of task payoff contingencies and the retarded group's was not. After a sequence of experimental experiences with different task payoff contingencies, this group's task choice also became a function of the task payoffs. The conclusions from this study are 1) groups must learn the contingencies of alternative choices before an expected group decision will result, and 2) learning those contingencies is facilitated by experiencing the consequences of the decision as soon as the decision is made.

(2) The Effects of Reinforcing and Punishing to Produce Social Exchanges on an Academic Task

This study investigated the effects of reinforcing and punishing to produce social exchanges on an academic task. Four students, forming two dyads, worked on addition problems by responding on a multiple choice response board which tabulated points on electromechanical counters housed in their student consoles. By placing a jack in one of three receiving holes, the Ss recorded points on their own counters, on their partner's counter, or on both their own and their partner's counters. Reinforcement procedures consisted of chips dispensed from a chip dispenser beside each student. Points and chips returned one cent each. Punishment procedures consisted of disabling the response mode after a subject made an inappropriate choice. The data suggested that both reinforcement and punishment procedures effectively controlled social exchanges, with reinforcement procedures being effective for three Ss, punishment procedures being more effective for two Ss and reinforcement and punishment procedures in combination being effective for all four Ss. The data also suggest that the punishment procedure may be effective for all Ss providing they are allowed time to identify the response mode that is mutually rewarding and time to reach an agreement to exchange reward points.

(3) An Oral Instruction as a Cue and a Consequence for Increased Academic Performance

This study examined the relative effectiveness of an instruction presented orally and by a recording. The students were two preschool children, ages 3 and 5, who worked on a letter ordering and discrimination program which required the students to respond to instructions programmed on a tape recorder. For one student a single oral instruction following the taped instruction was effective in producing responses to the taped instructions. For the other student presenting the oral instruction repeatedly until he responded to the initial taped presentation was more effective in producing responses to the taped recording. In these two prodedures the oral instruction served as a cue and a consequence for increased academic performance.

(4) The Effects of Cooperative Versus Individual Contingencies on Academic Performance

This study examined the relative effectiveness of two conditions in producing high levels of academic performance. The subjects were two preschool children, ages 3 and 5, who worked on a letter ordering and discrimination program. During the cooperative contingency an M&M delivery occurred after each responded correctly. The M&M's were dropped into test tubes which allow comparisons as they piled one on top of the other. The indiviudal contingency with comparative feedback produced higher levels of correct responses to the program.

b. Products of Developmental Research

Two systems of instrumentation were developed for the developmental research phase. Both employed a mechanical method for distributing points earned from academic tasks. The distribution methods required social responses from the students, i.e., choices to exchange, cooperate, or compete for points earned. The first system allowed students to exchange, work together, or work alone for points; while the second system allowed students to exchange, cooperate, compete, or work alone. The second system improved upon the first by displaying points earned in a light column with the illuminated light level indicating the point total. This method facilitates visual comparisons between the point totals of different response modes.

(1) Instrumentation System #1

The student console employed to develop social interactions on academic tasks is illustrated in Figure 3. The console has two components, a display and a response component. The display component consists of five electromechanical counters, a jack, three jack receiving holes, and three on-off indicator lights. The response component is a Dymedia Response Mode from COXCO-Municator, also called the COXCO Respondex manual model, D1 in the figure.

The response board has two components, a cover lid (D2) which houses the A-B-C-D multiple choice selection switches (D3) and the response board base (D4). The cover lid opens to receive an IBM-type student response card (D5). When in place, between the cover lid and response board base, the response card records responses as the student presses the A-B-C-D multiple choice switches, which perforate corresponding holes in the response card. Forty responses with four alternatives per response constitute the response board format.

A jack connecting the multiple choice switch block to the display unit enables correct responses to be recorded on one of the electromechanical counters. The response board has two modes of recording responses, one for teaching and one for testing. The mode is selected by turning the randomization knob located in the upper right hand corner of the board. During the testing mode the multiple choice response block advances to the next question number on the board after each response. At the end of the forty questions the response block is at the bottom of the board and must be reset to the top of the board for use again. The reset bar is located below the selection switches on the response block. During the teaching mode the response block does not advance until the student selects the correct button switch. The pattern of correct answers is selected by turning the randomization knob.

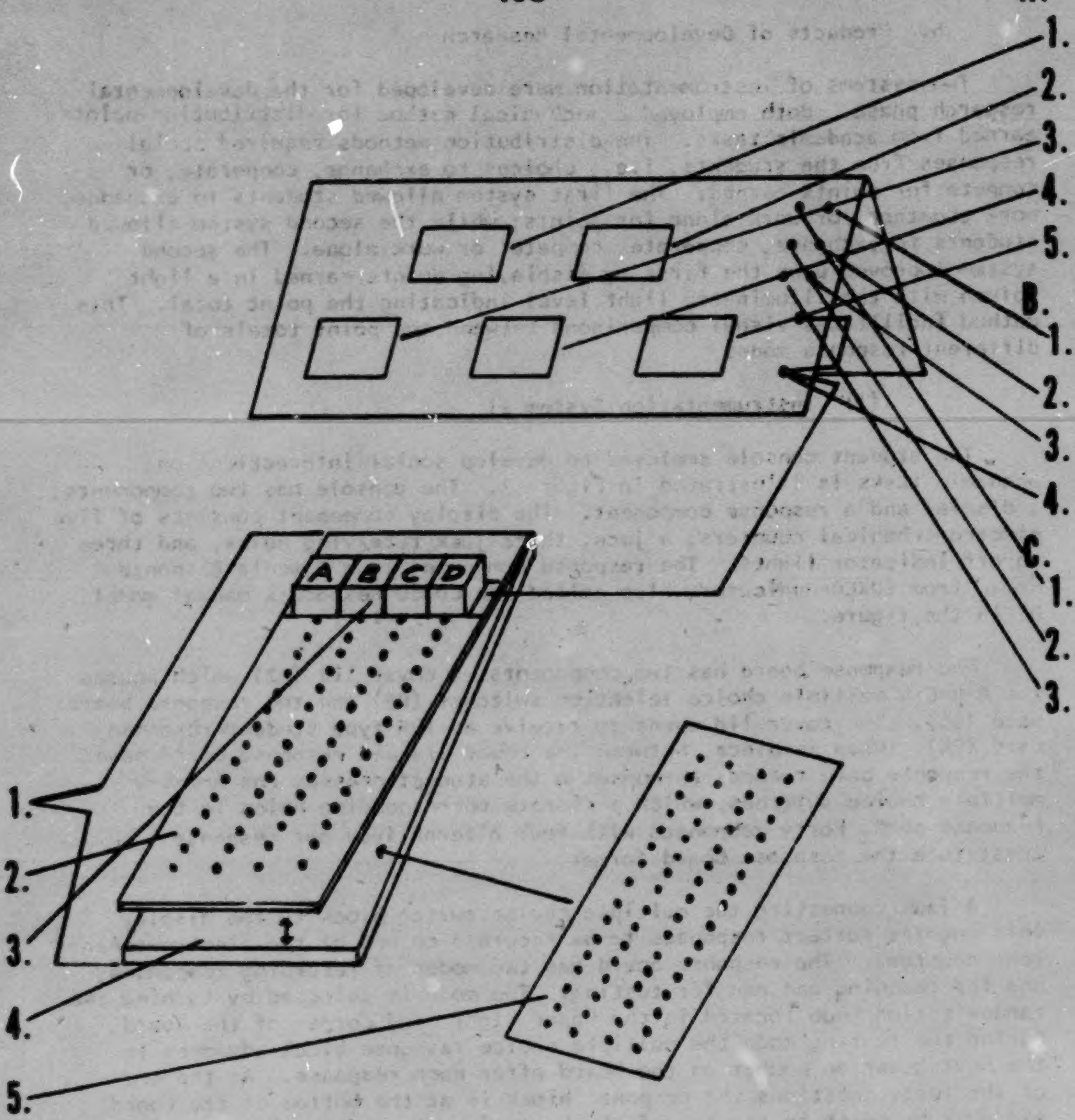


Figure 3

The student may choose how to use his points earned for correct responses by placing the jack on the display panel in one of three jack receiving holes. If he inserts the jack in Receiving Hole B-3, points for correct responses will tabulate on Counter A-5, his earn task counter. If he inserts the jack into Receiving Hole B-2, points for correct responses will tabulate on Counter A-4 of the other student's display panel, giving points to Other. If he inserts the jack into Receiving Hole B-1, points for correct responses will tabulate on Counter A-2, providing Other has selected the same receiving hole and presses the selection switch at the same time that Self presses his selection switch. If Other selects Receiving Hole B-3, points that he earns for himself will record on Self's Counter A-3, indicating to Self how many points Other has earned for himself. When two, two-person groups participate at the same time, all points recorded on one Group's Task Counter A-1 are also recorded on the Other group's display panel, Counter A-2. This counter enables one group to observe point accumulations of the other group.

The on-off indicator lights function as discriminative stimuli for which receiving holes are operable. When the lights are on, and if the jack is inserted and a correct switch pressed, a point will tabulate on the appropriate counter. On-off Indicator Light C-1 is the S^D for Receiving Hole B-3.

The Academic Task

The Social-Academic Response System described above can be employed with any academic task, providing the answers have a multiple choice format. The task selected for this research on the development and control of social processes on academic tasks was an addition problem series with sums from zero to ten. Each problem presented from a slide on a projection screen was accompanied with instructions preceding and succeeding the slide presentation. The format was as follows: "Put your jack in. Here is your new problem (slide presentation). Problem number ___. (Pause) Have you answered the problem? (Pause) Take your jack out." After the student responded the sequence was repeated with another slide presentation.

By manipulating antecedent cues, the on-off indicator lights, the experimenter can control the student's social choices. By consequating inappropriate responses by turning off an indicator light and appropriate responses by positive reinforcement, he also can develop student preferences for a social pattern.

(2) Instrumentation System #2

The apparatus illustrated in Figure 4 permits students to exchange, cooperate, or compete with their partner while working on academic tasks. The console has two components: a response panel (horizontal component) consisting of a paper clamp for the academic tasks and a COXCO respondex, and a display panel (vertical component) consisting of six columns of indicator lights (20 lights per column), three on-off indicator lights, three jack receiving holes, and a selection jack.

When students work on the social academic response consoles, they earn points for each problem correctly answered on their COXCO respondex (20 in the figure). Problems presented on paper in a multiple choice format are attached on the console by a paper clamp (18 and 19). The student answers the problem by pushing down one of the A-B-C-D push button switches on the COXCO respondex.

The response board has two components, a cover lid (21) which houses the A-B-C-D multiple choice selection switches (22) and the response board base (23). The cover lid opens to receive an IBM-type student response card (24). When in place, between the cover lid and response board base, the response card records responses, one for teaching and one for testing. The mode is selected by turning the randomization knob located in the upper right hand corner of the board. During the testing mode, a response advances the multiple choice response block to the next question number on the board. After twenty responses the response block is at the bottom of the board and must be reset to the top of the board for use again. The reset bar is located below the selection switches on the response block. During the teaching mode the response block does not advance until the student selects the correct button switch. The pattern of correct answers is selected by turning the randomization knob.

After answering a problem the student pushes the problem finish button switch and the problem finish light goes on. When the problem finish light goes off, the student works the next problem. As the student begins a new problem, the number of that problem is recorded in the Problem Number Light Column (1).

Points for correct answers are recorded when the student inserts his jack (17) in one of the three jack receiving holes at the base of the display panel (14, 15, or 16). A point is recorded when a light advances up the light column.

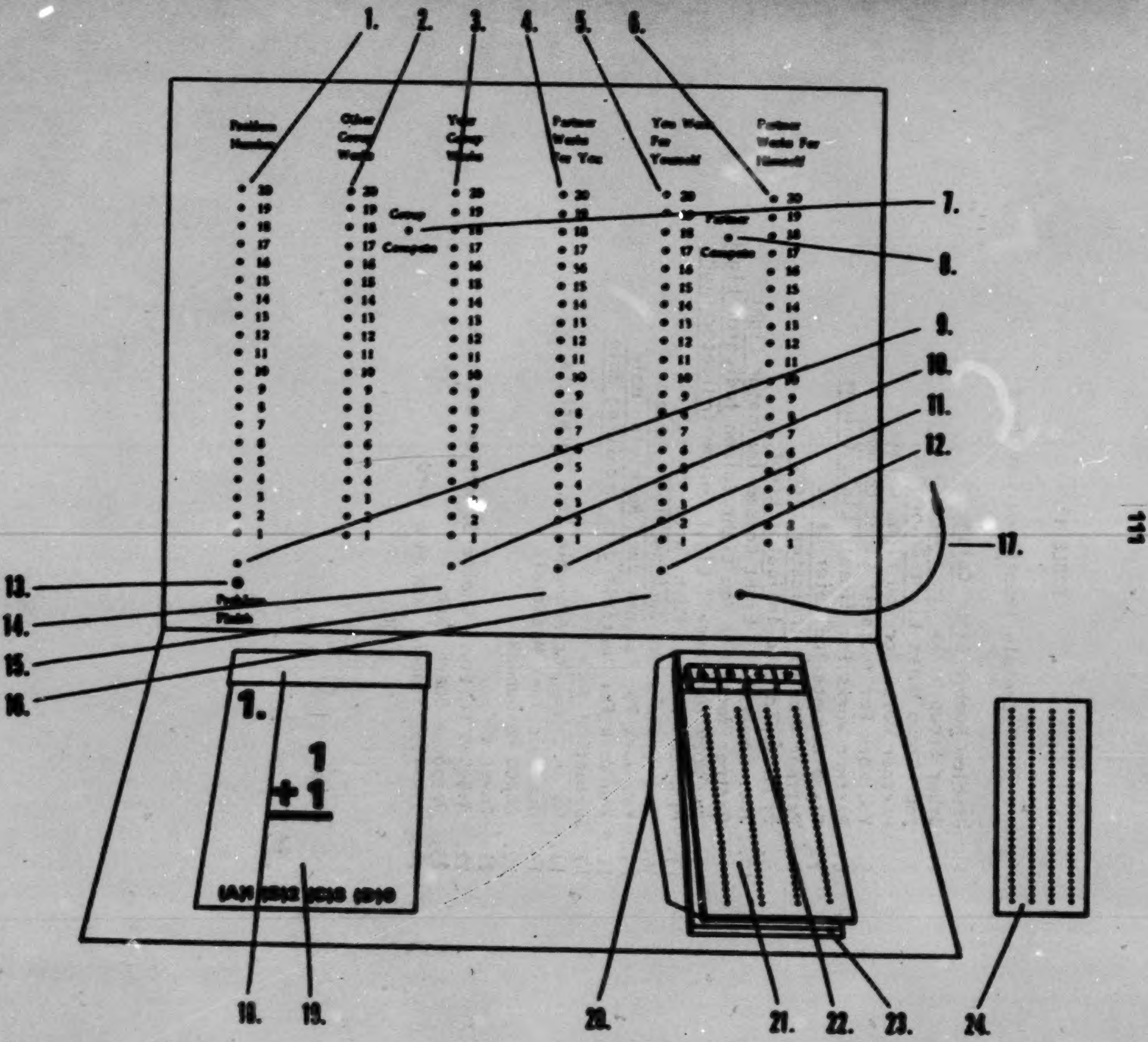

1.
2.
3.
4.
5.
6.
Problem Number
Other Group Works
Your Group Works
Partner Works For You
You Work For Yourself
Partner Works For Himself
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
Group Compute
Partner Compute
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
Problem Finish
1.
1
+ 1
(A)1 (B)2 (C)3 (D)0
A B C D
18.
19.
20.
21.
22.
23.
24.

Figure 4

TABLE 11

Console Identification Chart

1. Problem Number Light Column
2. Other Group Works Light Column
3. Your Group Works Light Column
4. Partner Works For You Light Column
5. You Work For Yourself Light Column
6. Partner Works For Himself Light Column
7. Group Compete Indicator Light
8. Partner Compete Indicator Light
9. Problem Finished Indicator Light
10. Your Group Works Light Column Indicator Light
11. Partner Works For You Light Column Indicator Light
12. You Work For Youself Light Column Indicator Light
13. Problem Finished Push Button Switch
14. Your Group Works Jack Receiving Hole
15. You Work For Partner Jack Receiving Hole
16. You Work For Yourself Jack Receiving Hole
17. Selection Jack
18. Paper Clamp For Academic Task Materials
19. Academic Task Materials
20. COXCO Respondex
21. Cover Lid
22. A-B-C-D Multiple Choice Selection Switches
23. Response Board Base
24. IBM-Type Student Response Card

When two students work on the consoles each operates his own and may choose to give points to himself by inserting his jack into receiving hole 16, give points to his partner by inserting his jack in receiving hole 15, or give points to himself and his partner by inserting his jack in receiving hole 14.

If the student chooses to give points to himself (jack in receiving hole 16) a correct response on the respondex advances the light up the You Work For Yourself Light Column (5). Light positions representing Self's progress, while he is working for himself, are also recorded on the Partner Working For Self Light Column on his partner's console. This provides the partner with information about how many points Self has earned.

If Self chooses to give points to his partner (jack in receiving hole 15) correct responses on the respondex advance the light up the Partner Works For You Light Column on partner's console. Similarly if Partner chooses to give points to Self, correct responses on the respondex advance lights on the Partner Works For you Light Column (4) of Self's console.

If both Self and Partner choose to give points to themselves and each other (jack in receiving hole 14) by responding correctly at the same time (within .1 second of each other) a light advances up the Your Group Works Light Column (3) on both students' consoles.

When four students work on the consoles they form two, two-person groups. When group members of both groups choose the Your Group Works Light Column (jacks in receiving holes 14) the Other group's light advances are recorded on the Other Group Works Light Column on Self and Partner's consoles. This information allows Self and Partner to compare their group's progress (column 3) with the Other group's progress (column 2).

When either of the two compete lights (7 or 8) flash the first student or group to respond correctly prevents points from recording on the Other student or group's consoles. For example, when the partner compete light flashes and Self and Partner have chosen to work for themselves (jacks in receiving holes 16) the first to respond correctly preventsthe Other's correct responses from advancing the light. Similarly, when the group compete light (7) flashes and members of both groups have chosen to work together (jacks in receiving holes (14) the first group to respond correctly prevents the other group's correct responses from advancing the light up the column.

When indicator light 10 is on, the Your Group Works response mode is operable, when indicator light 11 is on, the Your Partner Works For You response mode is operable, and when indicator light 12 is on, the You Work For Yourself response mode is operable.

C. Applied Research

1. Introduction

Applied research activities include the investigation and development of assessment and remediation procedures. Assessment research investigated methods for identifying interaction deficits in the classroom and remediation research focused on developing methods to increase verbal interactions and academic performance of socially and academically retarded students. The findings reported below resulted from these research activities in the classroom where assessment procedures were developed and in tutorial sessions where remediation occurred.

2. Findings

a. Classrom Sessions: Social Interaction Assessment in Classrooms for the Handicapped

Interpersonal behaviors have three distinguishable response classes that require specification before remediation can begin: social responses, interaction patterns, and social process skills. Social responses, an ingredient common to all interpersonal behavior patterns, are verbalizations or physical responses directed towards another. Interaction describes a particular pattern or causal relationship between these contacts. For example, subject child initiates an action to object child, who then reciprocates by directing a response back to the subject child. Such relationships of mutual affect, action-reaction sequences, specify some patterns of social contact as interaction. Social process skills are interaction patterns that are controlled by a social contingency. For example, cooperation is a social process defined by interaction and a common activity. Children interacting on a common task, for example, are cooperating. They are working together to complete a task.

Depending upon a child's social skills, the therapist may wish to develop responses from one of the three classes. For the isolate who has few contacts with others the first objective may be to develop social responses: i.e., verbal or physical actions directed towards another. This can be follwed by remediation procedures that promote interactions with another child, with a final objective to promote interactions on a common activity. Evaluating this social development, beginning with isolate behavior and terminating with a social process, requires a measure sensitive to each interpersonal pattern that develops. When specified as an initiation or receive, the social response is reflective of both the primitive social contacts emitted by the isolate and the interaction patterns emerging in the socialized dyad.

A social contact identifies the responses that one child directs toward another, while an interaction identifies, in addition, the responses the second child directs toward the first. Interaction also can be distinguished from an initiation on the basis of mutual affect, i.e., Child 1's responses affect Child 2, whose responses in turn affect Child 1. By observing and recording the direction of all social contacts (initiations and receives) one can identify two-way contacts, a minimal requirement for distinguishing between unreciprocated social responses and patterned interaction.

This study examines the effectiveness of procedures designed to measure and analyze initiation and receive rates in order to assess the handicapped child's level and pattern of peer contact. Contact levels can be described as rates of initiating or receiving contacts to and from peers, while contact patterns are best characterized by functional relationships between initiations and receives. When initiations are a function of the social environment, their rates of occurrence depend upon the consequences they produce. For example, when initiations and receives are positive reinforcers, a positive correlation best describes the relationship; when initiations produce receives, for example, initiations increase or when receives produce initiations, receives increase in rate of occurrence. On the other hand, when initiations and receives are negative reinforcers, a negative correlation best depicts the relationship: when initiations prevent the occurrence of receives, initiations increase, or when receives prevent the occurrence of initiations, receives increase in rate of occurrence. Finally, when initiations and receives are neutral stimuli, they are not functionally related and the correlation is zero.

This study will assess interaction deficits of two groups of retarded children, one group being diagnosed as more severly retarded than the other. The procedures developed to assess these differences between groups and between students within groups include a description of initiation and receive rates, functional relationships between initiations and receives, and patterns or structures of interpersonal preference based upon most frequently contacted peers.

Subjects and Setting

Students enrolled at the Experimental Education Unit are assigned to A and B classrooms according to the severity of their academic and/or behavioral retardation. Children with severe academic and behavior disorders are assigned to A classrooms and those with milder problems are assigned to B classrooms. Subjects for this study were eight students from an intermediate A and eight from an intermediate B classroom.

The eight students from the A classroom, one female and seven males, ranged in ages from 9 to 11 with the median of 10 and mean of 9.9 years. The eight students from the B classroom, also one female and seven males, ranged in ages from 8 to 13, with the median 10 and mean of 10.0 years.

The A students averaged one year below B students in both reading and math. Seven of the eight A students had severe behavior problems while three of the eight B students had behavior problems requiring special remediation.

Observation and Recording Procedures

Classes were conducted from 9:00 to 2:30 daily with one half hour for lunch. The data were collated during lunch Monday through Thursday for six consecutive weeks. Two observers, one for each classroom, recorded students' physical initiations and receives. An initiation was defined as any response oriented or directed toward another, and a receive as any response directed from another to the subject child. A verbalization was defined as any verbal response directed toward another, i.e., head and eyes oriented toward another, and/or identified by object name or pronoun 'you.' Physical responses were defined as physical contacts and finger points oriented toward another.

Each student was observed sequentially for a two-minute interval. When a student was being observed, he was the subject student and the observer recorded contacts and initiations from him to another student or receives from another to him. In addition to initiations and receives the observers recorded the object student as well. For example, if John initiated a verbal response to Tom, the observer recorded the sequence by identifying the type of contact and the object student with a coded number.

The observation sequence began with a different student each day. For example, on Day 1 the observer began the two-minute observation period with S1, then S2, S3, etc. On Day 2 the period began by observing S2, then S3, etc. The total sequence lasted 16 minutes, the approximate time the students had free after finishing their lunch.

Apparatus

Each observer was equipped with a keyboard mounted on a clipboard and plugged into a cassette recorder. The instrument was designed for recording precoded numbered events. The keyboard housed in the clipboard was comprised of 12, 3X4, button switches identified by the numbers 0-9, a print button, and an error button. This switching apparatus was connected to a portable cassette recorder that recorded the numbered entries on a tape cassette in the same order that they were entered.

The numbers were entered by pressing the desired sequence, e.g., 145, and then pressing the enter button. If a recording error occurred and 135 was pressed rather than 145, for example, the observer pressed the error button and then reentered the desired sequence. The sequence was recorded and later retrieved from teletype printouts. The recording system was portable as the cassette recorder was operated on rechargeable batteries, allowing the observer to move about the classroom while recording events.

The code employed to monitor initiations and receives consisted of three digits. The first digit, 1-4, identified a verbal initiation (1), a verbal receive (2), a physical initiation (3), or a physical receive (4). The second two digits of the code identified the other student by a number from 01 to 99. When a student's verbal or physical initiation was directed toward more than one other peer, the observers recorded a 198 or 398, indicating that the object of the initiation was not identified.

The code 101 indicated that the observed subject initiated verbal contact with Subject 01, and 201 indicated that 01 initiated verbal contact with the observed subject. Similarly, a 301 indicated that the observed subject initiated physical contact with 01, and a 401 indicated that 01 initiated contact with the observed subject. Teletype readouts from recorded observations provided a precise account of the sequence of events and the time interval between each.

Reliability Procedures

For reliability checks two independent observers (one each for the A and B classrooms) recorded data on the same students for 15 different days intermittantly scheduled over the six-week period, with two checks occurring on the fourteenth day. Five checks occurred during the first two-week period, four during the second two weeks, and seven during the last two weeks. Robinson's coefficient of agreement ranged from .78 to 1.00 with a median of .96. The coefficient of agreement for the eight reliability checks was .99 for the A classroom and .95 for the B classroom. For the first two weeks the coefficient was .99 for the A classroom, and .92 for the B classroom; for the second two weeks .99 for the A classroom, and .98 for the B classroom; and for the third two weeks was 1.00 for the A classroom and .96 for the B classroom.

Results and Discussion

Social Contact Analysis: Do Initiation-Receive Rates Discriminate Between A and B Students?

The description of our population indicated that A students were slightly behind B students in both reading and math, with the A students having more frequent and severe behavior problems. The criterion for entry into an A or B classroom was the severity of the behavioral and/or academic retardation, with the milder or less severe cases enrolled in the B classroom. A classroom teachers also noted that their students interacted infrequently with peers, while B classroom teachers expressed concern about managing interactions to ensure appropriate peer contacts. An effective measure of social behavior should reflect these class differences.

The data in Table 12 below describe the $\overline{X}$ initiation and receive rates for the two classrooms over the six-week period. The $\overline{X}$ rates for both gives and receives were higher for the B students, with the differences significant at the .01 level for initiations and at the .001 level for receives. You will notice that the $\overline{X}$ initiation rates were higher than receive rates for both classrooms. This resulted from recording initiations that were not directed at another student specifically.

TABLE 12

		A Classroom	B Classroom
Mean	Initiation Rates	2.3/minute	3.4/minute
Mean	Receive Rates	.9/minute	2.1/minute

Functional Analysis: Are Initiation and Receive Rates Functionally Related?

The question of whether or not a social contact is one component in a pattern of causally related interpersonal contacts, i.e., patterned interaction, can be addressed by identifying the functional relationship between initiations and receives. When a subject's responses cause a change in responses of another, four rate patterns may be distinguished: 1) an increase in Person 1's initiations to Person 2 cause an increase in Person 2's initiations to Person 1, 2) a decrease in Person 1's initiations to

Person 2 causes a decrease in Person 2's initiations to Person 1; 3) an increase in Person 1's initiations to Person 2 causes a decrease in Person 2's initiation to Person 1; and 4) a decrease in Person 1's initiations to Person 2, cause an increase in Person 2's initiations to Person 1. Patterns 1 and 2 are described statistically by a positive correlation and Patterns 3 and 4 by a negative correlation. When their is no relationship the correlation is zero.

Such a correlational analysis should describe differences between the initiation-receive relationships for A and B students as well as differences between students within each classroom. The initiation and receive rates for A and B students were correlated over the six-week period to yield a Pearson's r of .26 for the A classroom and .55 for the B classroom, with the differences between these two correlations significant at the .001 level.

These correlations were lower than anticipated, probably as a result of including in the analysis all initiations. Those initiations directed at specific others were included with initiations directed towards two or more students, undefined others.

This analysis can be refined by computing correlations between initiations and receives based upon who initiated and received contacts. For example, a positive correlation would result when Person 1's initiations to and receives from Person 2 are both high, while his initiations to and receives from Person 3 are both low. A negative correlation would result when Person 1's initiations are high while his receives from Person 2 are low; while his initiations are low and receives from Person 3 are high. The data in Table 13 present Pearson correlations for each student from the A and B classrooms. They were computed by correlating a student's total initiations toward a given student with the total receives from that same student over the six-week period.

TABLE 13

A CLASSROOM			B CLASSROOM		
Student #	Pearson's r	Sign. Level	Student #	Pearson's r	Sign. Level
1	.29	n.s.	9	.98	.001
2	.91	.01	10	.87	.01
3	.22	n.s.	11	.75	.05
4	.13	n.s.	12	.90	.01
5	.93	.01	13	.95	.001
6	.66	n.s.	14	.85	.02
7	.97	.001	15	.93	.01
8	.16	n.s.	16	.83	.01
Total	Sign. Cases:	3	Total	Sign. Cases:	8
	Insign. Cases:	5		Insign. Cases:	0

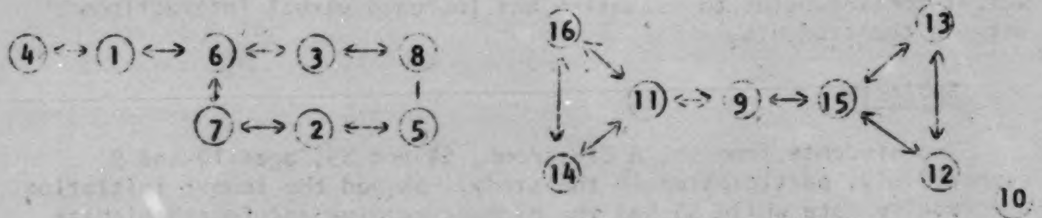
A student's contact with his peers can be described as functional when his initiations and receives are correlated and significant from zero. According to his criterion all B students had functional contacts with peers while only three of the A students had functional contacts. These differences between the A and B classes were significant, i.e., more B students had functional contacts than A students (Fishers exact p=.01)

Structural Analysis: Do Preference Structures Discriminate Between A and B Classrooms?

Our data from the preceding analyses indicate that A students initiate and receive contacts with peers at lower rates than B students and that fewer A students have functional contacts with peers than B students. A final question to address concerns the pattern or structure of these contacts. Are selected students from each classroom the recipients of most of the social contacts initiated by the remaining students, while other students receive relatively few contacts?

Social structure data are based upon a student's initiation preference, which in turn is defined as the most frequently contacted peer or peers. Students in the first three ranks of the subject child's initiation hierarchy are defined as preferred peers. This preference is reciprocated when the subject similarly is in the first three ranks of the preferred peer's hierarchy. From these reciprocated preference rankings mutual pairs were identified in both A and B classrooms. Although both classes had eight student pairs in which both ranked the other among the top three in initiated contacts, the patterns or structures of these relationships for the two classrooms were quite different.

The diagrams below depict the structures for the two classrooms. The circles identified by a number represent the student, and the double ended arrows represent mutual choices.



One distinguishable difference between the A and B structures is the subgroup patterns in the B structure which are absent in the A classroom. The two triad subgroups in the B classroom are qualitatively different patterns because all group members chose each other, in one subgroup 16 chose 14 and 11, 14 chose 16 and 11, and 11 chose 16 and 14, and in the other subgroup 15 chose 13 and 12, 13 chose 15 and 12, and 12 chose 15 and 13. In the A classroom there were no comparable triads.

Discussion

This study employed social contacts, initiations, and receives to identify and assess ongoing interactions in classroom settings. The data from the three analyses discriminated between students who differed in the severity of their retardation. The social contact analysis discriminated on the bases of the students' rates of initiating and receiving contacts; the functional analysis discriminated on the basis of the functional relationships between students' initiations and receives; and the structural analysis discriminated on the bases of the reciprocal preference patterns among students from A and B classrooms. These data offer support for employing social contact variables to assess social interaction deficits in classrooms for the handicapped. Not only did the data provide a basis for discriminating between A and B classrooms, but also for distinguishing between students within each classroom. The data also provide information upon which to base a social behavior remediation program by specifying whether a student's rates, reciprocity, or pattern of social contact is deficient.

b. Tutorial Sessions

Study #1: The Development of Procedures for Establishing and Increasing Verbal Interactions Between an Isolate and a Peer

The preceding classroom analysis of social interaction deficits described A students as initiating and receiving social contacts at lower rates, having fewer functional contacts with peers, and forming less stratified social structures than B students. In this investigation two students selected from the A classroom participated in tutorial sessions. The instructor manipulated task conditions and verbal contingencies to establish and increase verbal interactions between the students.

Subjects

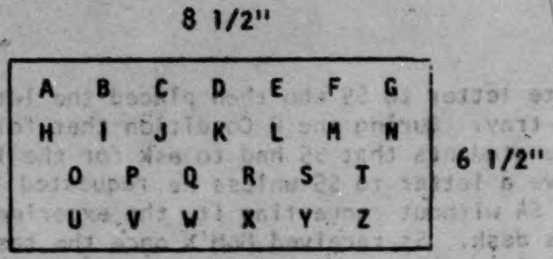
Two students from the A classroom, S4 and S5, ages 10 and 9 respectively, participated in the study. S4 had the lowest initiation and receive rate while S5 had the highest receive and fourth highest initiation rate. S4 ranked fifth and S5 last in social preference. S5 had more limited verbal skills than S4. Also, most of S5's social contacts were directed towards and received from teachers, which would account for S5's low social ranking.

Apparatus and Task Materials

The apparatus, also described in Section C-4 of this report, was a display console which presented recorded instructions and slide programs for a letter ordering and discrimination task. For each slide presentation the recording asked the students questions about the names of letters and instructed them what to do with program materials.

The students sat at desks facing each other, viewed the projection screen, and listened to instructions from the audio panel on the display panel beside them. They responded to the recorded instructions by manipulating the letter components of a Fisher Price letter tray.

The Fisher Price letter tray consisted of the letters A-Z which fit into a tray molded for each letter. The diagram below shows the arrangement of the letters in the tray:



It is impossible to arrange the letters in the tray in a different order because each letter only fits into the tray position molded to its shape.

A flat metal tray, 7" X 12," was also part of the program materials. This tray was called the letter board and it provided a surface for the student to order the letters in any manner he thought was appropriate. The students' responses on this board provided a test for learning alphabetic ordering.

The experimenter prepared the letter tray and letter board for the day's program by presenting the letter tray with only those letters the student was learning to name and order. During the beginning sessions the students worked on A and B. Once a student demonstrated naming and ordering skills with these letters the next letter was introduced, and so on until finally, at the end of the program, the student was responding to all of the letters in the tray during a single day's session.

The following instructions and questions are examples of the program format:

"Put the A in the letter tray where it belongs."

"Point to the letter in your letter tray and tell me what it is."

"Tip over your letter tray so the letter falls out."

"What letter is on the table?"

Procedures

The students answered questions and responded to the instructions by placing the appropriate letters in the letter tray. Immediately after each correct response an M&M was delivered in the dispenser located beside each student on the display console. Once correct responses were at a level of 95% or higher, the tasks were arranged for interdependence by eliminating one of the letter trays and letters, giving S4 the letters and S5 the tray. During the A Condition the Ss received an M&M after S4 gave the appropriate letter to S5 who then placed the letter in its position in the letter tray. During the B Condition that followed the experimenter instructed the students that S5 had to ask for the letter and that S6 was not to give a letter to S5 unless he requested it. When S5 received a letter from S4 without requesting it, the experimenter returned the letter to S4's desk. Ss received M&M's once the task was completed as in the A Condition. During the following A Condition the experimenter did not instruct the students about requests and did not return letters transferred without requests. The second B Condition followed the A Condition.

Results

Figures 7 and 8 present verbalization data for S4 and S5 during the A-B-A-B Condition sequence. Figure 7 represents S4's instructions to S5, "Ask for the letter John," and Figure 8 represents S5's requests for the letter. Verbal contacts between the two subjects increased when the B Condition was introduced and decreased when the condition was discontinued. The task interdependence condition alone, Condition A, was not sufficient to develop verbal interactions.

Discussion

The procedures employed in this study developed verbal interactions by first arranging task materials so the subjects depended upon each other for task completion, i.e., one student had the letters and the other the tray which necessitated one subject giving the letters to the other in order to complete the task; and second by instituting a verbal contingency which made task completion and subsequent reinforcement contingent upon verbal requests. Although the contingency focused on S5, requiring him to request before receiving a letter, the effect was the same as for S4 who instructed or reminded S5 that he had to ask for the letter before transfer could occur. These data also suggest that task interdependence is insufficient to promote verbal interactions. Although the subjects interacted physically during the A Conditions, with S4 giving and S5 receiving letters, concomitant verbal contacts did not develop. Only with the verbal contingency did the subjects develop consistent verbal patterns.

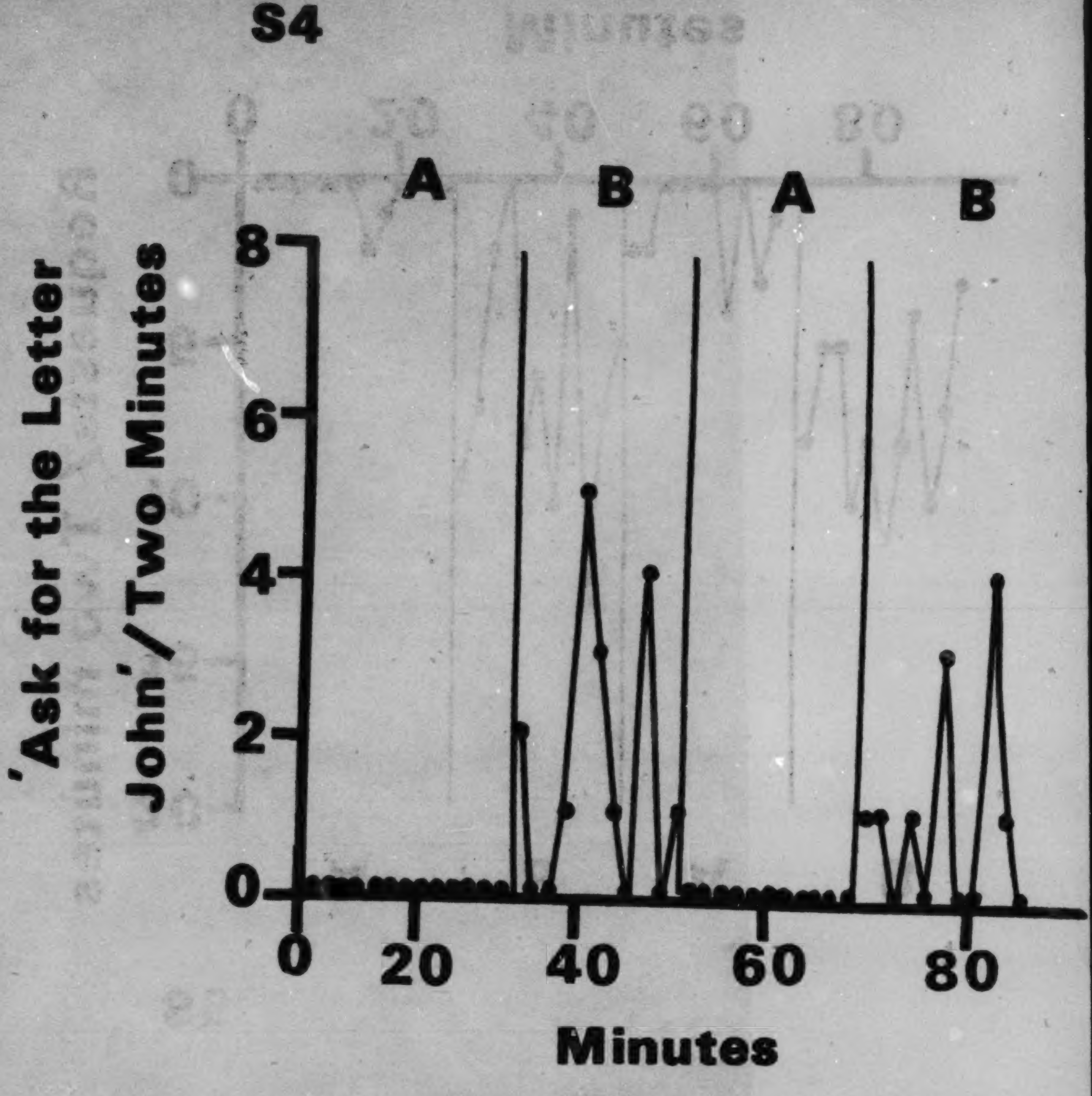

S4
A
B
A
B
'Ask for the Letter John'/Two Minutes
8
6
4
2
0
0
20
40
60
80
Minutes

Figure 7

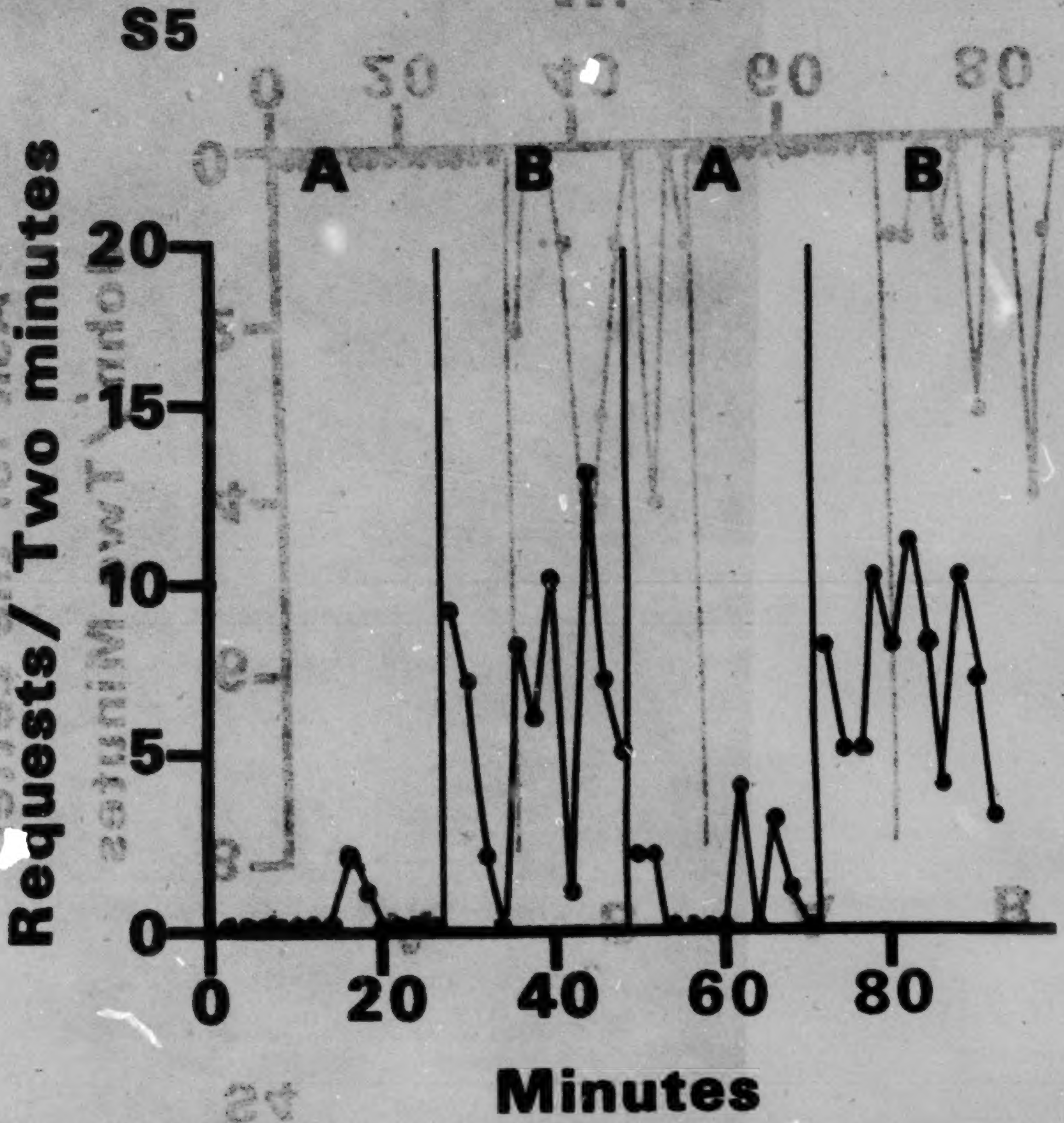


Figure 8

Study #2: The Development of Procedures for Employing Competitive Contingencies to Increase Academic Performance of Two Retarded Secondary Students

A common problem in classrooms for the handicapped is motivating students to achieve their full potential by performing at their highest rates on academic tasks. Frequently incentive procedures are employed to achieve this goal by making a rewarding outcome contingent upon the student's correct responses to task materials. Usually such procedures produce higher response rates than when no contingent rewards are provided at all. However, on occasion the student's rates remain inadequately low under the individual contingency and the instructor must search for alternative methods to increase performance.

A recent study by Lovitt and Esveldt (1970) suggests an area of research that may yield profitable results for motivating academic performance. Here a comparative reinforcement contingency, during which the student was reinforced for responding at rates higher than his previously established level, produced higher response levels than a simple intermittant schedule of reinforcement. This contingency is similar to competitive contingencies during which reinforcement is contingent upon a comparative response criterion: if one response level is higher (or lower) than another, reinforcement occurs. When the other response level is produced by another subject, the contingency is social.

This study is designed to investigate and identify the conditions under which the competitive contingency becomes an effective motivator of academic performance. The competitive contingency was administered to a pair of academically and socially retarded secondary students. One of the students performed at inadequately low levels under individual reinforcement contingencies. The question is whether or not the social competitive contingency will motivate when procedures employing individual contingencies have failed.

Subjects

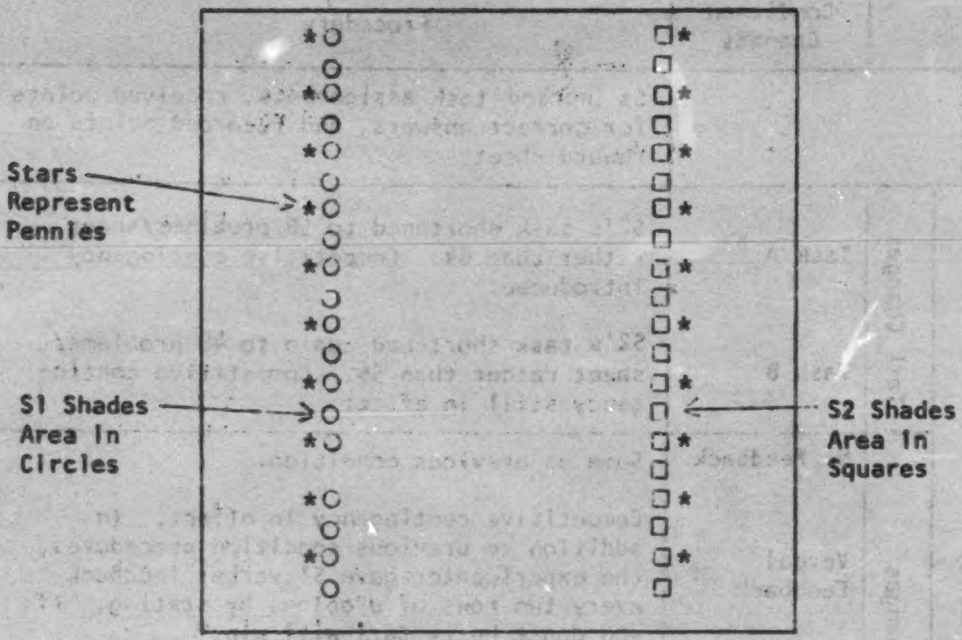
Two students enrolled in a secondary classroom at the Experimental Education Unit participated in the study. S2, a 13 year old male, was described as retarded with an I.Q. between 54-60, and as displaying unusual behaviors not under immediate environmental control. The teacher attributed his slow progress to his inattentiveness and the difficulty in finding positive reinforcers to motivate him. In addition he could add facts to sums of 20 at a median rate of 15 correct and one error per minute.

S1, a 17 year old male and also described as retarded with an I.Q. between 65-75, was described as displaying uncontrollable aggressive behavior in the classroom. He enjoyed competitive games with adults but did not like to loose to peers.

Procedures

These students were appropriate subjects for the study which was designed to employ a competitive contingency to increase academic performance. S2's slow progress in the classroom, which was attributed to the lack of effective reinforcers, provided an opportunity to investigate the effectiveness of a social contingency for motivating academic performance. S1's interest in competitive games indicated that he might be an appropriate partner for S1 in a competition on academic tasks.

The study was conducted in a laboratory room at the Residential Unit, adjacent to the Experimental Education Unit. The daily sessions lasted 20 minutes, during which time the students were excused from the classroom to participate in the study. In the laboratory room, they sat side by side in adjacent desks and worked add facts with sums to 10. Two sheets of 64 problems per sheet comprised the session's assignment. Upon completing a sheet, the Ss received one point for each eight problems correctly answered (one row). The students then recorded their points on the reward sheet situated beside them (See diagram below).



For each point earned, S1 shaded the area in the circles from the bottom of the sheet to the top, and S2 shaded the area in the squares. When a shaded column reached a star, the corresponding student earned 2¢. After working the first problem sheet and then recording the points earned on the reward sheet, the students worked the second sheet and recorded points earned again. At the end of the session the experimenter paid the Ss for the stars validated by the shaded columns on the reward sheet.

The condition changes included a baseline which preceded the competitive contingency introduced in subsequent conditions. Here the students learned the procedures for working problems and recording reward points. The following conditions included a competitive contingency during which the experimenter instructed the Ss that the first to finish his assignment could record his points first on the reward sheet and earn a bonus star worth 10¢. In addition, during the first condition change S2's task was reduced in length to increase his chances of finishing before S1 and winning the bonus star. During the second condition when the competitive contingency remained in effect, S2 received feedback on who was ahead of whom. During the final condition changes this feedback was gradually eliminated. The table below describes each procedural change:

TABLE 14

		Condition Changes	Procedure
Baseline			Ss worked task assignments, received points for correct answers, and recorded points on reward sheet.
Competitive Contingency	Task Changes	Task A	S2's task shortened to 56 problems/sheet rather than 64. Competitive contingency introduced.
		Task B	S2's task shortened again to 48 problems/sheet rather than 56. Competitive contingency still in effect.
	Feedback Changes	No Feedback	Same as previous condition.
		Verbal Feedback	Competitive contingency in effect. In addition to previous condition procedures, the experimenter gave S1 verbal feedback every two rows of problems by stating, "If you don't hurry Carl will win."
		No Feedback	Same as previous no feedback condition.
		Visual & Auditory Feedback	Competitive contingency in effect. After finishing each row of problems a light advanced up a column of a light board for each subject. The light board was situated beside the subject. The light advance was accompanied by an auditory signal.
	Fading Feedback	Auditory Feedback	Competitive contingency in effect. After finishing each row of problems an auditory signal sounded for each subject. The light board was situated beside the subjects as before but the lights were not illuminated.
		No Feedback	Same as the previous no feedback conditions.

Results

Following the baseline condition the competitive contingency was introduced and in effect for all subsequent condition changes. During the task condition changes the experimenter shortened S1's assignment length in order to increase S2's chances of finishing before S1, who worked problems at a much higher rate. The data in Figure 9 below illustrate the effects of each condition change on the subjects' response rates per problem sheet. The triangles represent S1's rates and the circles S2's rates.

The competitive contingency and task changes had no apparent effect on S2's rates as the medians for the baseline, Task A, and Task B Conditions were 17, 17, and 18 respectively. There was an apparent increase in S1's rates with the introduction of the competitive contingency as his rates increased from a medium of 20 correct answers per minute during the baseline to 24 and 27 correct per minute during the Task A and B Conditions. When feedback was introduced during the feedback condition changes, S2's median rates increased from 16 during the preceding no feedback to 23 per minute in feedback, then decreased to 20 during the following no feedback, and increased again to 24 during individual and auditory feedback which replaced verbal feedback. Similiar effects were obtained for S1 with median rates increasing from 27/minute during no feedback to 34/minute during verbal feedback, and then decreasing to 30 during the second no feedback, and then increasing to 38/minute when feedback was reintroduced.

The rates for both S1 and S2 maintained during the final condition changes when feedback was gradually eliminated by first discontinuing visual and then the auditory feedback. The rates for S2 were 22/minute during the auditory feedback and 24/minute during the final no feedback condition. S1's rates increased from a median of 40/minute during auditory feedback to 47/minute during the final no feedback condition.

These data were analyzed further to determine the significance of the feedback effects on both Ss' performance rates. An analysis of variance for the feedback condition changes yielded the following data:

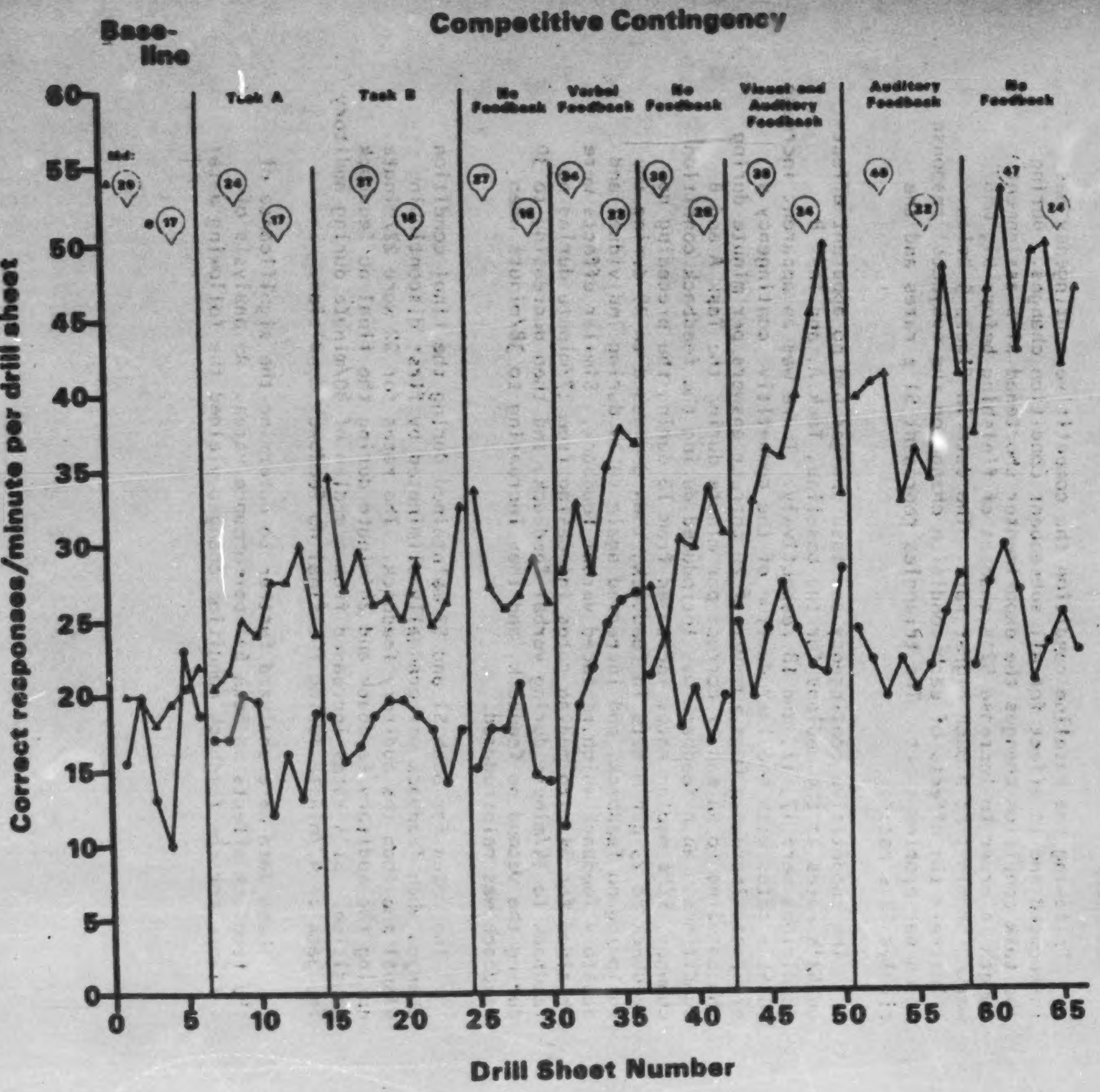

Competitive Contingency
Base-line
Task A
Task B
No Feedback
Verbal Feedback
No Feedback
Visual and Auditory Feedback
Auditory Feedback
No Feedback
Md:
20
17
24
17
27
16
27
16
34
23
36
26
36
34
46
22
47
24
Correct responses/minute per drill sheet
60
55
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Drill Sheet Number

Figure 9

A

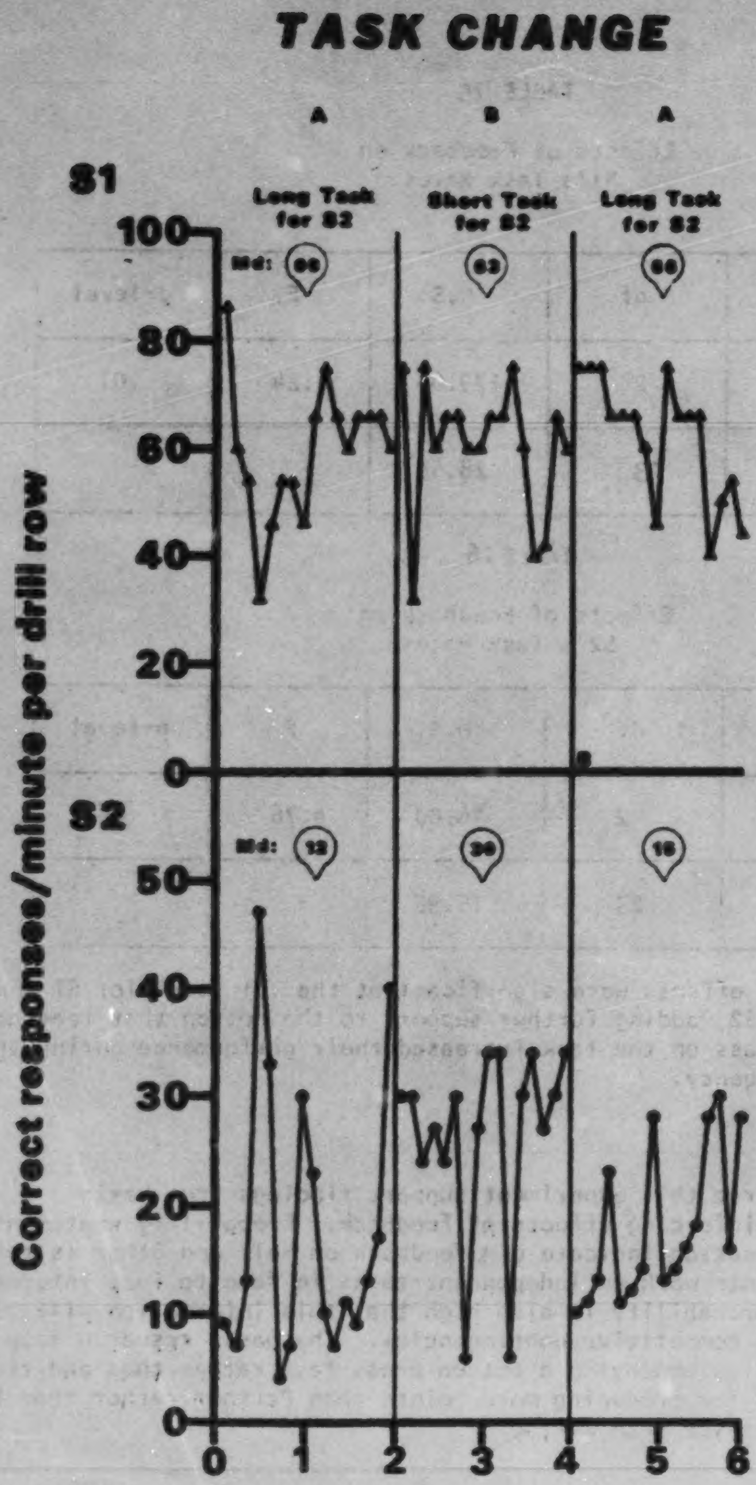

TASK CHANGE
A
B
A
S1
Long Task for S2
Short Task for S2
Long Task for S2
Md: 66
63
66
100
80
60
40
20
0
S2
Md: 12
30
16
50
40
30
20
10
0
0
1
2
3
4
5
6
Correct responses/minute per drill row

Figure 10

TABLE 15

Effects of Feedback on
S1's Task Rates

Source of Variation	df	M.S.	F.	p-level
Treatments	2	179.00	6.24	.01
Within Cell Error	23	28.65	-	-

TABLE 16

Effects of Feedback on
S2's Task Rates

Source of Variation	df	M.S.	F	p-level
Treatments	2	76.00	4.76	.05
Within Cell Error	23	15.95	-	-

The treatment effects were significant at the .01 level for S1 and the .05 level for S2, adding further support to the notion that feedback on students' progress on the task increased their performance during the competitive contingency.

Discussion

The results from this experiment support findings from basic research on the reinforcing effects of feedback. Probability statements reported in that section indicate that feedback on Self and Other is reinforcing when students work on independent tasks in face to face interaction situations. The probability is also high that this information will be reinforcing during competitive contingencies. The basic research data were based on studies employing a button press task rather than addition facts, and a reward for producing more points than Partner rather than for working problems faster than Partner.

Given the importance of providing immediate feedback on a student's progress during competitive contingencies, one could arrange the learning conditions to maximize the immediacy of the feedback about who is working faster. Shortening the length of the race could have that effect, for example, by providing more immediate consequences for fast work.

Experiment 2

The task change conditions administered in Experiment I did not affect S2's performance during the competitive contingency. This experiment investigates the effects of task length and competitive contingencies in more detail by providing more immediate consequences for finishing first and by further reducing S2's assignment, making him more likely to finish as fast as his partner.

Procedure A

The study was conducted in the same laboratory room during the 20 minute daily sessions. Both Ss worked two sheets of add facts with sums to 10. The students sat in adjacent desks in front of a display console housing two chip dispensers located in front of each student. The first to finish a row of problems on his problem sheet received a chip from the chip dispenser. Each chip was exchanged for one cent at the end of the session. In addition, the students received a point, which was also worth a penny, for each row of problems correctly solved.

The experimenter began each 'race' by instructing the Ss when to begin and then timing each to the end of a row of problems. When one student finished first the experimenter activated that student's dispenser to deliver a chip. The chip delivery made a noise which also served as feedback for finishing first.

During the A Conditions both Ss' problem sheets contained eight rows of eight problems per row. During the B Condition S1's problem sheet contained eight rows of four problems per row while S2's problem sheet contained eight rows of eight problems per row as in the A Condition.

Results A

The data in Figure 10 present the Ss' correct response rates for each sheet during the A-B-A Condition changes. S1's data are presented in the upper graph identified by triangles and S2's in the lower graphs identified by circles. The median for each condition are also listed at the graph headings.

S1's rates did not fluctuate systematically with the three task changes as the medians steadily increased from 60 to 63 to 66 correct responses per minute. S2's rates increased as conditions changed from the long to the short task and then decreased when conditions changed back to the short task, with median rates for the three conditions being 12, 30, and 15 correct answers per minute.

Procedure B

The procedures of the preceding condition changes were repeated here. However, instead of manipulating S2's assignment length the experimenter altered the competitive contingency. During this B Condition the Ss worked as in the B Condition of Procedure #1. During the C Condition the experimenter discontinued the competitive contingency by discontinuing the chip deliveries for the first one finished. During the D Condition the contingency was discontinued as in the C Condition, and in addition the Ss worked their assignments alone, in the absence of their partners. The changes followed a B-C-B-D-B Condition sequence.

Results B

The data in Figure 11 present Ss rates of correct answers for each sheet during the five conditions. As in the previous figure, S1's data are presented in the upper graph identified by triangles and S2's in the lower graph identified by circles. The medians are displayed in the headings of each condition.

S2's rates did not change dramatically or systematically with the contingency changes, the median rates for the five conditions were 27, 24, 27, 27, and 24. S1's rates, however, did decrease and increase as the competitive contingency was discontinued and then reinstated. The median rates were 66, 50, 71, 50, and 71, indicating his rates were a function of the contingency changes.

Procedure A'

Procedure A was reintroduced for the remaining sessions to replicate the findings that S2's response rate was a function of task changes. The condition changes began with the short task, Condition A, changed to the long task, Condition B, and then changed back to the short task in the final A Condition.

Results A'

The data in Figure 12 present Ss' rates for the three conditions. S2's rates decreased when the long task was introduced and then increased when the short task was reintroduced in the final A Condition. The median rates were 29, 18, and 27. S1's rates maintained at a 66 correct responses/minute for all three conditions.

B

CONTINGENCY CHANGE

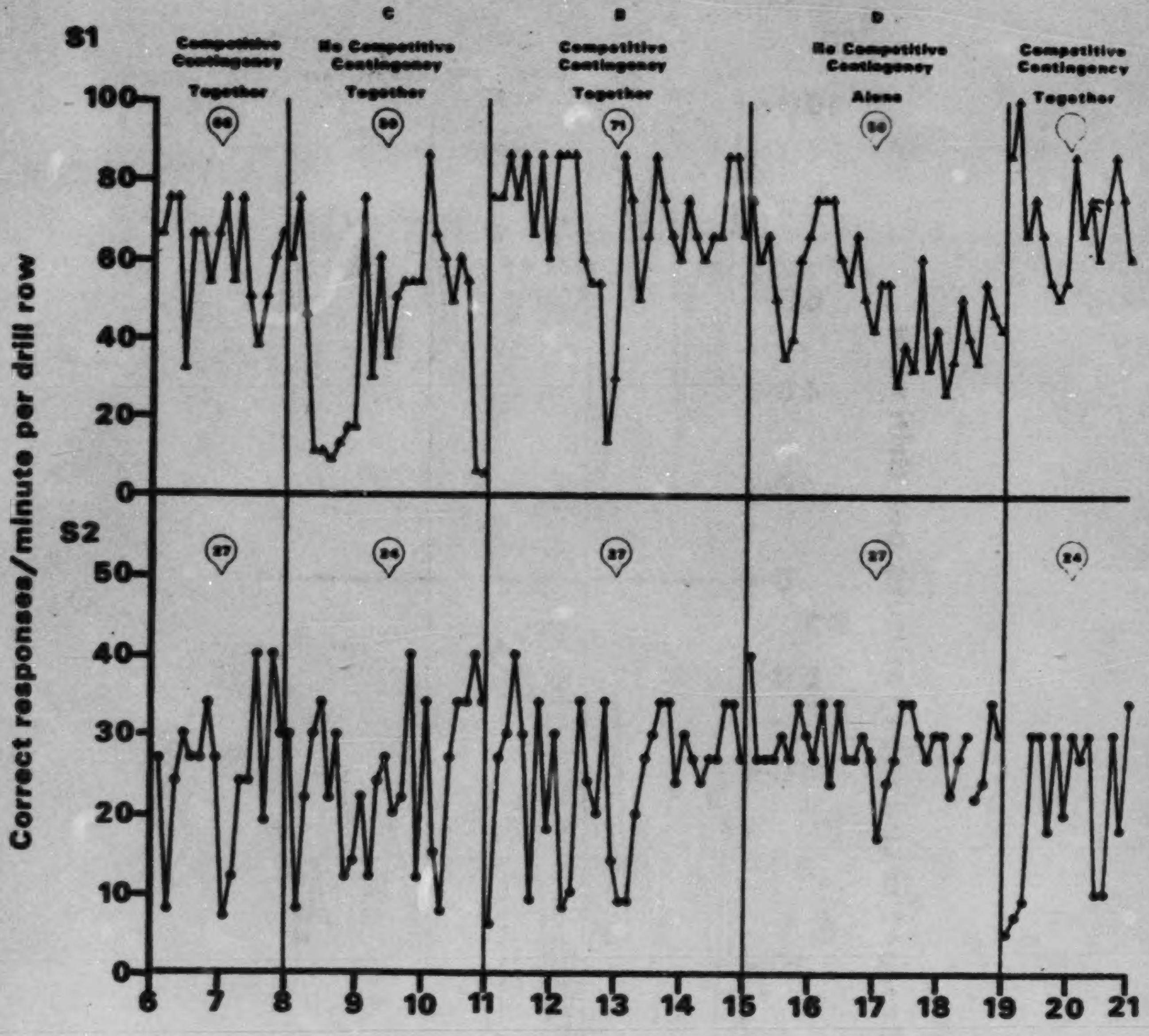


Figure 11

A

TASK CHANGE

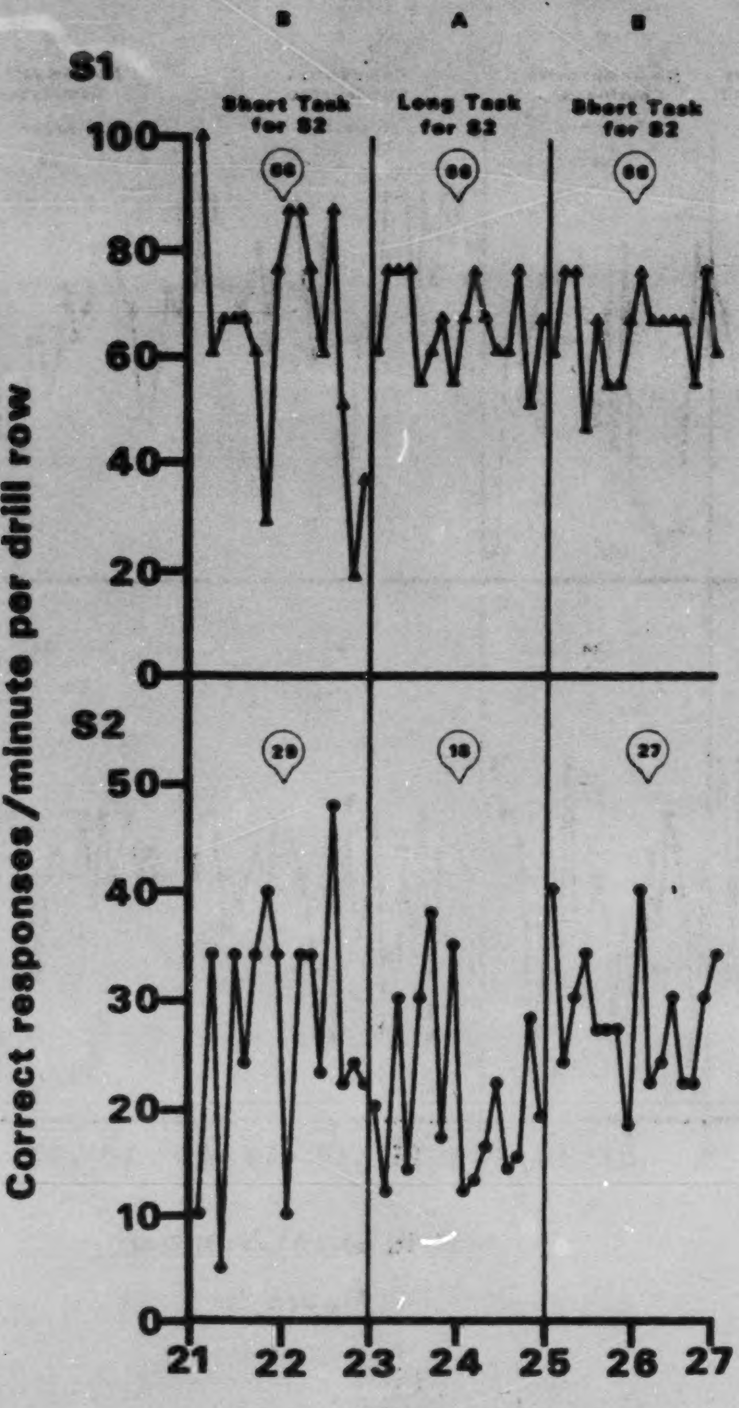


Figure 12

Discussion

The data produced in these experiments suggest that 1) S1's performance was a function of the competitive contingency, increasing when the contingency was in effect and decreasing when it was discontinued, and 2) S2's performance was a function of task length increasing for the short task and decreasing for the long task. These findings were analyzed statistically to determine the significance of the effects of the two manipulated events: task length and the competitive contingency. Table 17 below presents the contingency change conditions in an analysis of variance to determine the effects of the contingency change treatment on S1's performance. Table 18 combines the A Condition task change conditions in an analysis of variance to determine the significance of the task change treatments on S2's performance.

TABLE 17

Analysis of Variance of S1's Performance
During Contingency Change Conditions (B)

Source of Variation	df	M.S.	F	p-level
Treatments	2	6508.5	18.16	.001
Within Error	134	358.3	-	-

TABLE 18

Analysis of Variance of S2's Performance
During Task Change Conditions (A)

Source of Variation	df	M.S.	F	P-level
Treatments	2	1751.0	19.6	.001
Within Error	94	89.4	-	-

The effects of the competitive contingency on S1's performance and the effects of the short task on S2's rates were significant at the .001 level.

This study suggests that when students are motivated to compete, i.e., there is a reinforcer for working faster than Partner, their performance may be affected by their ability to win as well as by the presence or absence of the competitive contingency. In this experiment the competitive contingency and task length, which affects ability to win, increased performance. The presence or absence of the competitive contingency altered S1's performance rates while the shorter task increased S2's rates.

This latter finding highlights the importance of equalizing the probabilities of winning with a handicapping system that maximizes the potential motivating effects of a competitive contingency.

Taken together, Experiments 1 and 2 identify variables important in the development of competitive behavior. In Experiment 1 feedback had motivational effects on both S1 and S2, increasing S1's rates from 17 responses/minute during baseline to 24 responses/minute during the final condition, and increasing S2's rates from 20/minute during baseline to 47/minute during the final condition. In Experiment 2 the competitive contingency increased S1's rates from 50 to 70 responses/minute and the short task increased S2's rates from 18 to 27-29 per minute. These findings are compelling evidence for the appropriateness of employing a social contingency to motive performance of retarded students.

c. Products of Applied Research

Evaluating the development of social interactions on academic tasks requires curricular materials that can be arranged for task independence (requiring responses from a single subject for completion) or interdependence (requiring responses from two or more subjects for task completion). A letter ordering and discrimination program was employed in applied research to meet this requirement. Materials from the program were manipulable so that instructional components could be arranged for independence or interdependence. As students developed their letter ordering and discrimination skills, they also interacted with their partner to complete their assignments.

A sister program, which was developed in applied research to extend the learning sequence established by the letter ordering and discrimination program, was also designed for task independence or interdependence. This word identification program (see Appendix B) developed elementary word identification skills by shaping the subjects' responses to include spelling with the plastic letters from the letter program. By distributing these letters, with S1 spelling words from S2's letters and S2 spelling words from S1's letters, task interdependence is established.

This program is especially useful for developing social patterns that were established on the letter program. Once students have developed letter ordering and discrimination skills their academic and social skills can continue a simultaneous development on the word identification program.

III. Conclusions and Recommendations

A. Result Summary

1. Social interaction occurs when one person's behavior affects and is affected by the behavior of another. These patterns are described according to the type of mutual effect occurring. The ten patterns of mutual effect are:

    a) Person 1 positively reinforces Person 2 who, in turn, positively reinforces Person 1

    b) Person 1 positively reinforces Person 2 who, in turn, negatively reinforces Person 1

    c) Person 1 positively reinforces Person 2 who, in turn, positively punishes Person 1.

    d) Person 1 positively reinforces Person 2 who, in turn, negatively punishes Person 1.

    e) Person 1 negatively reinforces Person 2 who, in turn, negatively reinforces Person 1.

    f) Person 1 negatively reinforces Person 2 who, in turn, positively punishes Person 1.

    g) Person 1 negatively reinforces Person 2 who, in turn, negatively punishes Person 1.

    h) Person 1 positively punishes Person 2 who, in turn, positively punishes Person 1.

    i) Person 1 positively punishes Person 2 who, in turn, negatively punishes Person 1.

    j) Person 1 negativelv punishes Person 2 who, in turn, negatively punishes Person 1.

    Pattern (a) is the most enduring as it leads to cooperative behavior and the more complex forms of social organization. This pattern is called the exchange pattern and is fundamental to the development of social organizations: interdependent components of a social system working cooperatively.

2. Exchange behavior is behavior that is a function of an exchange contingency. When Self's reinforcement is contingent upon Other's responses and Other's reinforcement is contingent upon Self's responses, responses from that class of behavior increase in rate.

3. Cooperative behavior is behavior that is a function of a cooperative contingency. When Self and Other's reinforcement is contingent upon responses from both Self and Other, response rates from that class of behavior increase in rate.

4. Competitive behavior is behavior that is a function of a competitive contingency. When Self's reinforcement is contingent upon a response rate that is higher (or lower) than anothers, Self's response rate increases (or decreases).

5. Feedback behaviors are responses that seek out information. Feedback behaviors on Self are responses that seek out information on Self's progress on a task. Feedback behaviors on Other are responses that seek out information on Other's progress on a task. Feedback behavior on Self's group are responses that seek out information on Self group's progress on the task. Feedback behavior on Other's group are responses that seek out information on the Other group's progress on the task.

6. The social contingencies (exchange, cooperative, and competitive contingencies) control the rate of occurrence of the social patterns (exchange, cooperation and competition) and the feedback behaviors (feedback on Self, feedback on Other, feedback on Self's group, and feedback on Other's group. The exchange contingency controls the rate of occurrence of feedback on Other's reciprocal giving responses; the cooperative contingency controls the rate of occurrence of feedback on the group's progress on the interdependent task; the individual competitive contingency controls the rate of occurrence of feedback on Self and Other's progress on comparable independent tasks; and the group competitive contingency controls the rate of occurrence of feedback on one's own group and the other group's progress on comparable interdependent tasks.

7. The probability that information about another's actions will be reinforcing increases when persons interact with each other, thus motivating them to seek out information on the Other's actions.

8. Social contingencies increase the probability that feedback on another's behavior will be reinforcing. For example, the competitive contingency increases the probability that information about Other's behavior will be reinforcing.

9. The social contingencies in effect will determine the type of feedback that will be reinforcing. When a cooperative contingency is in effect,

information about progress on the group task will be reinforcing; when the exchange contingency is in effect information about what Other is giving will be reinforcing, and when the competitive contingency is in effect, information about Other's progress on his task is reinforcing.

10. In general, the reinforcing power of feedback will depend upon 1) the social conditions in effect, 2) the type of feedback available, and 3) the content of the feedback itself. In Summary Statement 9 the different effects of the social contingencies on feedback is described. The availability of feedback will also affect its reinforcing power. For example, when students can choose between feedback on Other's progress and feedback on who won during competitive contingencies, feedback on Other's progress is usually more reinforcing. This may be due to the greater accuracy of the individual progress feedback which presents a continuous record of the competitor's status in the race, whereas, the win data feedback present the status when the race is over. The content of the feedback may also govern feedback's reinforcing power. During competitive contingencies, for example, the reinforcing power of feedback on another's progress on the task may depend upon the content of that information. If Other is far ahead or far behind, Person may loose interest and be less motivated to seek out the information. On the other hand, if the information shows that Person and Other are very close, Person being slightly behind or slightly ahead of Other, he will be more interested in the potentially vacilating status of the contest's outcome.

11. Competitive contingencies increase the probability that Self and Other's performance on a task will vacillate together, increasing and decreasing at the same time. This social condition increases the probability that their performance will be positively correlated.

12. Competitive contingencies will probably not increase performance if there is no incentive provided for work completed on the task. The combination of the work incentive together with a competitive contingent reward is more effective in motivating performance than when the competitive contingency is employed alone.

13. The social history of a group determines their initial responses to a social contingency. It is unlikely that a group will interact as expected upon their first experience with a social contingency. Experiencing the consequences of their actions immediately after group members make their choices and respond accordingly will facilitate their learning the contingency. Once this occurs the expected pattern will emerge.

14. There is a growing body of information describing the effects of one person's social approval or disapproval on another's behavior. Usually, when social approval from one person is contingent upon the responses of another, the Other's response rate increases, and when social disapproval

from one person is contingent upon the responses of another, his response rate decreases. This method is sometimes employed to control the interaction pattern of groups. A teacher, for example, may provide attention and approval for students when they play together or work cooperatively on a task. Although the teacher is frequently successful in reinforcing a pattern once it occurs, she is less effective in getting the pattern started in the first place. One method that is effective in developing a pattern and controlling the frequency at which students choose that pattern of interaction requires 1) that the students have clearly defined response alternatives: tasks that require exchanges, cooperative behavior, and competitive behavior, together with the corresponding social contingencies, 2) that the teacher have control of the availability of these opportunities, and 3) that she manipulates the availibility of the response alternative by making its removal contingent upon an inappropriate choice. If the student chooses to compete when the educational prescription is to cooperate, this alternative is removed. This procedure continues until the student chooses appropriately. When this contingency is in effect the students quickly change to the preference prescribed by the contingency. Once this pattern is established the teacher may positively reinforce the students for choosing to cooperate, as the aversive consequence is discontinued. In this way preferences for a social pattern may be developed.

15. In general the antecedent and subsequent events that develop, maintain, and control social processes are 1) independent and/or interdependent task presentations which determine the responses required for task completion, and 2) the social contingencies which determine the type of social pattern that will develop. The table below summarizes the antecedent and subsequent event arrangements required to develop and control a social pattern. Independent tasks (requiring responses from a single person for task completion) together with an individual contingency (a reward delivery contingent upon the correct task responses from the person) produce individual behavior patterns. This is not a social pattern as responses from another are not influencing Person's performance. An independent task with a competitive contingency (or a competitive and individual contingency combined) may produce competitive behavior. These conditions increase the probability that the pattern will develop. However, they are not necessary and sufficient to produce competition. An independent task with an exchange contingency increases the probability that exchange patterns will develop, but are not necessary and sufficient to produce exchange patterns. The interdependent task and the cooperative exchange or the cooperative contingency increases the probability that cooperative exchange or cooperation will develop, but they are not necessary and sufficient to produce the pattern.

The single condition that is necessary to produce one of the social patterns is the social contingency. Our present data suggests these conditions to be necessary and sufficient to produce a social pattern: 1) the appropriate social contingency, 2) the appropriate task, independent or interdependent, 3) the appropriate type of feedback, 4) immediate and continuous feedback, 5) immediate and continuous consequences for responses to the task achievement contingencies, and 6) shaping to the social contingency from the individual contingencies already familiar to the group members. This list is subject to modifications as additional data provide directions for further elaboration and specifications.

TABLE 19

Antecedent and Subsequent Event Arrangements
Affecting Exchange, Cooperation and Competition

Type of Antecedent Event	Arrangement of Antecedent Event	Response Pattern	Subsequent Event	Arrangement of Subsequent Event
Independent Task	Person 1's responses required for task A's completion Person 2's responses required for task B's completion	Individual response pattern	Person 1 receives reward deliveries Person 2 receives reward deliveries	Individual contingency
		Competitive response pattern		Competitive contingency Individual contingency and competitive contingency
	Person 1's responses required for task A's completion Person 2's responses required for task B's completion	Exchange response pattern	Person 2 receives reward deliveries for task A's completion Person 1 receives reward deliveries for task B's completion	Exchange contingency
Interdependent Task	Person 1 and 2's responses required for task A and B's completion	Cooperative exchange response pattern	Person 1 receives reward deliveries for task A's completion and Person 2 receives reward deliveries from task B's completion	Cooperative exchange contingency
	Person 1 and 2's responses required for task A or B's completion	Cooperative response pattern	Person 1 and 2 receive reward deliveries for task A or B's completion	Cooperative contingency

B. Recommendations

1. General Implications for Application of Findings

Based on the research to date, the procedures that will most effectively produce and maintain a social pattern among members of a small group are:

1. Arranging the physical environment to facilitate a face to face interaction between students.
2. Providing the proper task materials, interdependent task materials for cooperative behavior and independent task materials for exchange or competitive behaviors.
3. Instituting the appropriate social contingencies. Cooperative contingency for cooperative behavior, exchange contingency for exchange behavior, and a competitive contingency for competitive behaviors.
4. Providing for immediate and continuously visible feedback on Self, Other, and Self and Other group's progress on the task materials.
5. Teaching the social contingencies in effect by providing immediate consequences for the student's responses to the task and by shaping to the social contingency from the individual contingency already familiar to the student.

A number of questions arising from attempts to produce changes in a student's social responses are likely to occur. Answers to some of those questions have resulted from our research findings, conclusions, and their implications for application. This is only a partial listing of the problems likely to arise in classroom applications. Additional research in the application of social behavior modification procedures is needed to expand the list of problems and their probable solutions.

Question #1

I have done everything suggested to develop competitive behavior in a two-person group in my class. Although the two students are working, I am not sure they are performing any differently than when they were working alone. How do I know that they are competing, that the procedures are having any kind of affect on my students?

Answer:

This question is basic to our research on the social processes, as it is necessary to identify the pattern in order to evaluate the effectiveness of procedures employed to produce competition. There are two methods you may use to evaluate the effectiveness of your procedures. One method is more sensitive than the other, but also likely to produce some emotional responses from the student (although the magnitude of the response is small and shortlived). You must change the competitive contingencies three times beginning with a positive competitive contingency, then changing to a negative competitive contingency, and then back to a positive competitive contingency again. As you know a positive competitive contingency is a reward contingent upon achieving a higher performance level than another, and a negative competitive contingency is a reward for achieving a lower performance level than another. If the response rates of the two students decrease as conditions change from the positive to the negative and then increase as conditions change from the negative to the positive, they are competing.

The second method which is less sensitive requires you to change the contingencies from an individual contingency, a reward for simply achieving on the task, to a competitive contingency and back to an individual contingency again. The problem here is that the student may respond sufficiently high during the individual contingency to mask any change that might occur as you change to the competitive contingency. The dramatic changes in performance are less likely to occur here, and hence, identification will be subject to error. However, you will error in the direction of concluding that the students are not competing when actually they are.

Question #2

This is similar to question 1. How do I know that my students are cooperating?

Answer:

Identifying cooperative behavior is an easier task as there are a number of responses associated with cooperative behavior that will identify the pattern. When students cooperate they take into account the responses of the other in order to coordinate their actions. Depending upon the interdependent task you provided the students to engage themselves, the task requirements give clues for what coordinated responses to look for and record. In addition to the coordinated response tabulations students working together on a common task frequently use group-like pronouns such as we, us, and ours. The third method is to present alternative tasks, two interdependent tasks, or one independent task and one interdependent task. Then change the contingency from one task to the other and back to the one again. When both tasks are interdependent you must change the cooperative contingencies from one task to another and look for changes in the task choice. Their choice should follow the changes in the contingencies for cooperation to be present. When one task is independent and the other interdependent, you must change from the individual to the cooperative contingency and then back to the individual contingency again. Similar changes in the task choice would allow an evaluation that cooperation is present during the cooperative contingency.

Question #3

I do not understand the merits of the exchange process. How does it add to a child's social development? Also, how do I know when the pattern is present?

Answer:

The exchange pattern is more basic to social interaction than either competition or cooperation. It is one of ten patterns of mutual effect between two people. When persons mutually reward each other they are in a pattern of exchange. This is more commonly understood as an exchange of favors. Person 1 helps Person 2 who, in turn, helps Person 1. One rule of social life, the norm of reciprocity, reminds us that if we receive a favor we must be prepared to return a favor. Students can learn the value of helping others by engaging in exchanges with their classmates. Frequently this occurs without special prompting from the teacher. Sometimes additional incentives are needed to initiate the pattern between students. Introducing an exchange contingency can achieve this end. By alternating an individual with an exchange contingency one can evaluate whether or not the contingency produces the pattern.

Question #4

Will my students understand the social contingency if they have never experienced one in the past?

Answer:

We have found that children do not understand a contingency until they have experienced the consequences of their actions during that condition. Giving them the contingency verbally is successful for some students, probably the more verbal ones. The slower students are less likely to understand until they have experienced directly the new arrangement of consequences. Two methods for assuring their understanding are 1) to shape from the contingencies with which the student is familiar to the social contingency of interest, and 2) to provide immediate feedback on the consequences of the actions of individuals within the group and of the group itself.

Question #5

I have administered a competitive contingency in a two-person group, and rather than increases in performance, I get decreases. What is wrong?

Answer:

We have found that competitive contingencies alone are insufficient to increase and maintain high levels of performance. An incentive for work completed on the task must be provided along with the competitive contingency. During this condition students are rewarded for working and receive a bonus for outdoing the other. When the competitive contingency is employed alone, only the winner is rewarded. This may cause one to drop out of the race as soon as he sees that he cannot win.

Question #6

I administered a competitive contingency together with a work reward ratio and instead of competing, the students exchanged wins. They colluded to beat the system and the contingency! Is this unusual and what am I to do to change the pattern?

Answer:

Our work has produced similar results in some two-person groups. Students who are daring and have a previous pattern of friendship may collude by exchanging wins. There are several ways to break the pattern which is sometimes remarkably endurable. One way is to institute a negative competitive contingency, i.e., a reward for achieving a lesser task outcome than the other. A second method that sometimes works is to reduce the amount of the competitive contingent reward, making it more valuable to achieve a higher status by winning, with the amount of the win being of lesser value. A third method is to schedule the trials or competions intermittently and vary the amounts of the wins so that it is difficult, if not impossible, for the students to plan ahead and agree upon a pattern of action that will ensure each an equal win. When planning is difficult, the colluding partnership is weakened and the students are more willing to take their chances going it alone and trying to surpass their partner.

Question #7

I have arranged for my students to exchange, cooperate, compete, or work alone. How do I control their choices to respond in one of the four ways?

Answer:

You gain control of their choices by controlling the availability of their response modes. By eliminating all choices but one, and associating that response mode with a cue, the student will learn that the cue is a discriminative stimulus for responses in that mode. This is a quicker and more reliable method than providing greater rewards for the teacher preferred social response mode.

Question #8

Is there any way that I can systematically develop a preference in my students for responding in one of the three social patterns?

Answer:

Yes, providing you have stimulus control over their choices, you can make the withdrawal of the availability of a response mode contingent upon an inappropriate choice. When the student chooses correctly, cues or discriminative stimuli are present for all of the social response modes, suggesting to the student that he has a choice. However, when he chooses a non-teacher preferred social mode, the cues for that mode are withdrawn.

Question #9

Will successful social behavior modification lead to less interaction between teacher and student, as more and more students help each other, compete with each other, and cooperate together on academic tasks.

Answer:

Later maybe, but the first educational relationship to be established is an exchange pattern between the teacher and the child. The teacher provides a cue, the student responds, and the teacher follows with social approval or disapproval. The student is affected by the cue and the consequences, and the teacher is affected by changes in the student's responses. The final pattern resulting from this interaction is an exchange of correct responses from the student for social approval from the teacher. From this pattern the student may engage in exchanges with his peers, where reciprocal help is the pattern. The cooperative and competitive behaviors can develop once the student is interacting with his peers and the rewards resulting from that interaction maintain his participation.

Question #10

I have employed a cooperative contingency, and although the students work there is little interaction on the task. They do not appear to be working together on the task.

Answer:

A likely problem here is that the requirements of the task do not necessitate interaction. One student alone can complete the task as effectively or more effectively than two working together. The task is an independent task. You will have more success if, in addition to the cooperative contingency, you provide a task that requires responses from both students for task completion, an interdependent task.

Also you may be confused about how to prepare interdependent tasks. One method that is simple and does not require you to develop a whole new curriculum of interdependent academic tasks is to assemble several different tasks that will constitute a single task assignment for the group to complete. This task conglomerate might include some spelling, reading, and math. If the group has three members and there are three subunits in the task assignments, the students may decide to divide their labor with each member working on a different task. Only when the task conglomerate is completed will the group be rewarded. This may encourage group members to divide their labor in a more efficient manner, with the speller working on spelling, the mathematician working on math problems, and the reader reading the reading assignment. Also, when one has finished his work, he may be motivated to help the others finish because the group reward is not delivered until the conglomerate is finished.

The type, arrangement, length, and difficulty of task materials constituting the conglomerate require further investigation as these variables will contribute to the affects the task conglomerate has on the students' cooperative responses.

2. Suggested Procedures for Motivating, Assessing, and Remediating Social Patterns of Handicapped Children

The utility of any research effort can be evaluated by the ease of translating a given finding into a recommendation for action that solves an immediate problem. The research effort presented in this project included basic, developmental, and applied research phases in order to strengthen the links between the laboratory and the field. The findings from each research phase require some interpretation to facilitate applications. This has been attempted in a program that summarizes procedures for motivating performance, assessing social deficits, and developing social process skills. This program (see Appendix A) is not intended as a definitive and authoritative statement on social processes but, rather, is offered as a guide for remediation in the classroom and for directing future research.

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APPENDIX A

A MANUAL FOR MOTIVATING PERFORMANCE, ASSESSING AND REMEDIATING SOCIAL DEFICITS, AND DEVELOPING SOCIAL PROCESS SKILLS IN RETARDED CHILDREN

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Introduction

Academic performance, nonsocial behaviors, and social skills are three classes of response deficiencies that characterize retarded children and are the object of remedial programs in the classroom. Academic performance and nonsocial behaviors have been successfully controlled and modified by altering the antecedent cues that elicit the response and the reinforcement contingencies that increase and maintain their rates of occurrence. To a lesser extent, social behaviors have been similarly controlled and modified by altering antecedent and subsequent event arrangements. Additional information about the types of antecedent cues and reinforcement contingencies for social behavior control may be useful for developing more effective social behavior modification programs.

The purpose of this manual is to increase the success rate of social behavior modification efforts by specifying 1) the conditions that must be established before a social behavior modification program can be introduced successfully, 2) the procedures that will accurately assess and remediate social deficits, and 3) the procedures that will develop social process interactions on a variety of academic tasks in classroom settings.

A necessary condition for instituting a social behavior modification program is stimulus control over the child's nonsocial responses and academic performance. This means that the child's behavior must be affected by selected antecedent cues eliciting prescribed responses, and he must be motivated by the reinforcement contingency and respond appropriately or perform at increased response rates. Once this is achieved, the teacher can shape a social behavior modification program to fit the needs of the child by altering the antecedent cues and reinforcement contingencies in a step by step sequence. When successful, the program will maintain stimulus control while altering the controlling antecedent and subsequent event arrangements from antecedent stimulus cues and individual contingencies to independent and interdependent task arrangements and subsequent social contingencies.

This manual outlines a set of procedures or steps to employ in socialization programs for the social-emotionally disturbed child. The manual has three programs each addressing problems that must be resolved before proceeding to subsequent programs. Program I addresses motivational problems by identifying the variables that affect performance and then outlining procedures for arranging environmental events to increase response rates. Program II builds upon the motivational control established in Program I and addresses socialization problems by outlining procedures for assessing social skills and then remediating identified deficits. Program III builds upon social skills established in Program

II by outlining procedures for developing these interaction patterns on a variety of academic tasks and then generalizing these patterns from tutorial to classroom settings.

PART I: A Program for Employing Individual Contingencies to Motivate Student Performance

Student performance in classroom settings is a function of the task materials assigned and the consequences resulting from task completion. When the requirements for completing an assignment exceed a student's level of skill development and he makes more incorrect than correct responses to the task, frequent consequences are a low grade from the teacher and disapproval from the child's parents. If this pattern continues, with negative consequences such as low grades and parental disapproval resulting from the child's efforts on academic materials, his motivation to continue working will decrease as he responds at increasingly lower and lower rates. The end result is, of course, a refusal to work at all and may be even an avoidance of the classroom situation.

The teacher can intervene to reverse this pattern of failure by altering the task materials she assigns, by altering the consequences for completing an assignment, or both by changing the task materials and the consequences for task completion.

A. Ensuring Successful Performance by Altering the Task Materials

For complex tasks learning sometimes takes an unreasonable length of time, or may not be achieved at all. Typically, we address the problem by breaking the task into subtasks which are learned in a sequence that successfully approximates the criterion task. When a child is making an excessive number of errors, we may consider subdividing the task and linking the resulting subtasks together so that criterion performance on one subtask will ensure success on a subsequent subtask.

Many of our basic skill areas such as computation, reading, spelling, and writing have been programmed in a way that ensures success at each subtask level before more difficult tasks are introduced. After the teacher has intervened appropriately by breaking difficult tasks into workable subtasks, the student may continue to perform at an unaccpetable level: he may lack the motivation required to complete his assignments.

B. Motivating Performance by Altering the Consequences for Task Compeltion

Teachers may affect student motivation by providing positive or negative consequences for task completion. Letter grades and occasional words of praise or disapproval are frequent consequences teachers provide for student work. For many students these consequences are sufficient to ensure high levels of performance and rapid skill development. For others alternative incentives are needed, as motivation to work for grades or teacher approval is too low to ensure task performance.

Incentives that have proven to be effective motivators for a wide range of behaviors have two characteristics in common: they are contingent and immediate. Incentives are contingent upon specific responses when they are delivered only if the response occurs. Incentives are immediate when deliveries occur immediately after the response is emitted.

When teachers employ words of approval and grades as incentives for academic performance, student performance may not increase or maintain at appropriately high levels because 1) the contingency between the response and the incentive delivery is unclear, 2) the incentive does not follow immediately after the student responds, or 3) the student does not value the grade or teacher approval. Motivational systems may be designed to remediate these difficiencies.

Although tokens and other tangible incentives are frequently employed to motivate performance and control behavior, nontangible incentives such as free time or special privileges have been employed as effective motivators in classroom settings. Typically, a student works for points which purchase minutes of free time to do as he wishes by engaging in chosen activities.

The two relationships that determine the effects of such contingencies on student performance are 1) the relationship between the student's responses and the points or stars he earns for responding correctly, and 2) the relationship between the points or stars and the privileges or minutes of free time that can be exchanged for points. Table I illustrates variations between student responses and points earned. Table II illustrates variations between points or stars earned and minutes of free time:

TABLE I

	Correct Responses	Stars or Points Earned
(1)	1	1
(2)	2	1
(3)	4	1
(4)	8	1

TABLE II

Points Earned		Minutes of Free Time Purchased
(1)	1	1
(2)	2	1
(3)	4	1
(4)	8	1

Table I lists variations for the number of correct responses required to earn a star or reward point. In Variation (1) one correct response earns one reward point, and in Variation (4) eight correct responses earn one reward point. Variation (4) requires more work than Variation (1) for the same reward. Table II lists variations between the number of points earned and the number of minutes purchased for free time activities. In Variation (1) one reward point will purchase one minute of free time, and in Variation (4) eight points will purchase a minute of free time. Variation (4) is more expensive than Variation (1).

The relationships between correct responses, points earned, and purchased free time provide a flexibility of control that is needed to adjust work requirements with rewarding consequences in order to maximize task performance.

C. Setting Up a Motivational System

Traditional classroom procedures to motivate performance may have a greater affect on performance if evaluating task performance is frequent and the teacher provides immediate consequences for the accuracy and rate of academic output. When evaluations are infrequent and rewarding consequences too far removed from task completion, the student does not experience immediate consequences for working and his rate of performance on assigned tasks may subsequently decrease.

A Limited Incentive Program

In most classrooms motivational problems may be remediated with simple modifications in the ongoing system. The steps should include 1) identifying student needs and appropriate curricular materials to meet those needs, 2) specifying the response requirements of the curricular tasks, 3) identifying the reward incentives that follow successful task completion, and 4) specifying the magnitude of the reward earned for task completion.

Step 1: Identify Student Needs and Appropriate Curricular Material to Meet Those Needs

Teachers may identify the academic areas needing remediation by reviewing student scores on recent tests or by employing a probe consisting of sample problems. By taking one-minute probes, which allow the student to work on a problem series for one-minute periods, one can compute the correct and error rates. If the student's rates of reading sounds on a phonetics program or adding sums to 10 on a math program are lower than what is required to advance to the next level, further skill development is needed.

Step 2: Specify the Response Requirements of the Curricular Task

Specifying response requirements means that the teacher must specify the number of correct and incorrect or the rate of correct and incorrect responses that the student must emit in order to advance to another assignment or another task level. If the task, for example, is reading sounds: a, e, i, o, ch, etc. and the criterion is reading the sounds orally at a rate of 75 correct responses/minute, the student must master all of the sounds presented in his assignment at that criterion rate before he is assigned a new sound. Or, if the task is adding sums to 10 on an assignment sheet containing 90 addition problems and the criterion is writing the sums at a rate of 20 correct answers/minute, the student must answer all the addition problems presented on that assignment sheet at the criterion rate before advancing to the next problem series of sums to 12.

Step 3: Identify the Rewarding Consequences that Follow Successful Task Completion

Motivating task performance requires that reward deliveries be contingent upon correct responses and that they occur immediately after task completion. These conditions are satisfied when 1) the contingency is clearly specified so the student understands the accuracy and rate of performance that will earn a reward, and 2) the teacher corrects the assignment soon after completion in order for the student to determine for himself how much he has earned.

In the past teachers have employed incentive charts to display stars or stickers for good behavior or work completed. When this chart is modified to allow for more frequent evaluations each day the teacher has more opportunities to shape the student's behavior and thereby motivate his performance. The first step in shaping or motivating the child is to specify the relationship between student responses and the stars or stickers earned for responding correctly.

Table III below illustrates variations between student responses and stars earned:

TABLE III

	Correct Responses	Stars Earned
(1)	1	1
(2)	2	1
(3)	4	1
(4)	8	1
(5)	16	1

In Variation (1) one correct response earns a star while in Variation (5) 16 correct responses earn a star. Variation (5) requires more work for the same reward than Variation (1).

Stars earned may become valuable to the extent that they are displayed on a classroom chart that allows students to observe each other's progress. Table IV illustrates a method of recording stars earned. If yellow stars were earned for problems answered correctly on all assignments, then a display chart could represent the number of stars earned on an assignment, with a blue star representing 2 yellow stars, a green star 3, a red star 4, and a gold star representing 5. The yellow star could also be interpreted as a point earned for work completed on an assignment when the teacher finds it necessary to develop a point system.

TABLE IV

	Correct Responses	Display Stars
(1)	1	Yellow
(2)	2	Blue
(3)	3	Green
(4)	4	Red
(5)	5	Gold

Clearly specifying the contingency may require a written contract attached to the assigned materials specifying the number or rate of correct and incorrect responses required to earn a reward point. The table below illustrates how a work-reward contingency might be specified:

TABLE V

Task Assignment	Response Requirement for Task Completion	Rewards Earned for Task Completion
Sullivan Reading Book IV	25 Correct 0 Incorrect	1 Point or 1 Yellow Star
Pages 44-54	10 Correct/minute 0 Incorrect/minute	3 Points or 3 Yellow Stars

John is assigned Pages 44-54 in Sullivan Reading Book IV. For each 25 correct responses with no errors he earns one star, and if he works at a rate of 10 correct/minute with no errors he earns an additional three stars.

The teacher notes the time John begins and finishes working his assignment. After correcting his work, she divides the number of correct or incorrect responses by the time (in minutes) to determine his correct and error rates. John took five minutes to work 50 problems: 50/5 = 10 problems/minute with no errors. He earned 2 reward points for working 50 problems and 3 additional points for working at a rate of 10 problems per minute.

Step 4: Specify the Magnitude of the Reward Earned by Meeting the Response Requirements for Task Completion

The work-reward ratio that will motivate one child may not affect another child, which suggests that work-reward ratio schedules may be altered to fit the motivational requirements of each student. Identifying the effective work-reward schedule for each student may be approached first by providing rich rewards for relatively low performance rates for all students. This increases the probability that students who normally work only a little, as well as the more motivated ones, will participate and experience the rewarding consequences of their performance. Once all students are working and earning reward points or stars, the work-reward ratios may be leaned so that more work is required for the same rewards. The table below illustrates a sequence that ensures task performance by providing a rich work-reward ratio at first, which is followed by leaner schedules with increasing response requirements:

TABLE VI

Days	Add Sums to Ten	Points or Stars Earned	Work-Reward Ratio
1	10 Correct Responses	1	10:1
2	15 Correct Responses	1	15:1
3	20 Correct Responses	1	20:1
4	30 Correct Responses	1	30:1
5	30 Correct Responses	1	30:1
	20 Correct/Minute	1	

On Day 1 the student must answer 10 problems correctly to receive a reward point, on Day 2 the ratio is increased to 15:1, on Day 3 to 20:1, on Day 4 to 30:1, and on Day 5 the student earns a point for every 30 problems answered correctly and a bonus point for working at a rate of 20 correct responses per minute.

This limited system for motivating performance may be expanded to include back-up reinforcers for stars or points earned. Frequently such a token economy is recommended when the stars and display charts fail to have the desired effect.

A Token Economy

The eight steps required to set up a token economy are 1) identify the students' academic needs and the curricular materials that will meet those needs, 2) specify the response requirements for each curricular task - how many or what rate of correct and incorrect responses meet the criterion for successful performance, 3) identify the rewarding consequences that will follow successful task completion, 4) specify the magnitude of the reward earned by meeting the response requirement for task completion, 5) identify the privileges that may be exchanged for the reward points earned from task performance, 6) specify the number of reward points required to purchase time on selected activities, 7) identify procedures to account for points earned and expended, and 8) specify the daily or weekly time intervals for spending points.

Steps 1-4: Same as for the Limited Motivational System

Step 5: Identify Privileges to Be Exchanged for Points or Stars Earned from Task Performance

A common finding when searching for the reinforcers that will control behavior is that activities which are reinforcing for one student may not be reinforcing for another. Consequently, it is difficult to specify in advance the types of activities or privileges to employ as incentives for task performance in a particular classroom. Obviously, the activities that are reinforcing may vary from classroom to classroom and from school to school.

This problem may be solved by employing a generalized reinforcer such as free time from school work to engage in activities selected by the student. Free time may come to function in much the same way that money serves the varied needs of adult populations. Furthermore, free time activities may be structured according to their reinforcing value by allowing students to identify their favorite activities prior to instituting the token economy. This can be achieved by either asking each student to list in order of preference the activities he enjoys, beginning with the most enjoyable activity listed first on the list, or by observing and recording the frequency that each student engages in self-selected activities. After the students submit their preference lists or the teacher has a frequency record of student choices, the data can be collated by tabulating choice frequencies for each activity. The choice data from the student lists may be collated directly. For the behavioral data recorded by the teacher, however, student preferences are computed by totaling the frequencies that a student chose to work on each activity. The highest total places an activity highest in the ranking. These data are comparable to the verbal reports obtained from students who specify the activities they most prefer.

For example, collating individual preference data produces 25 students who rank the following ten activities as: go to gym, sharpen pencil, get drink of water, correct papers, talk to friend, serve on student committee, go to playfield, play with clay, play with paints, and wash erasers. Five students rank the gym activity first, ten rank it second, and ten rank gym third. The frequency tabulation for this activity is Rank 1 (5), Rank 2 (10), and Rank 3 (10), with the frequencies tabulated in parentheses.

From these data summary ranks may be computed by summing the products of the rank and the frequency of an activity listed at that rank, and dividing the result by the total frequency of the activity listed for all ranks:

$$\frac{\text{Sum of (Rank X Frequency)}}{\text{Total Frequency of the Activity for All Ranks}} = \frac{\sum (R) \quad (F)}{F} = \text{Summary Rank}$$

Table VII below provides illustrative data on the activities selected and ranked by the 25 students. The activity "go to gym" was listed eight times in the first rank, meaning that eight students listed the activity first on their list, seven times in Rank 2, five times in Rank 3, two times in Rank 4, and three times in Rank 5. The products of the rank multipled by the frequency is computed and listed beside the frequency for each rank: for Rank 1, 1X8=8; for Rank 2, 2X7=14, for Rank 3, 3X5=15; for Rank 4, 4X2=8; and for Rank 5, 5X3=15. When these products are summed we get: 8+14+15+8+15=60. This result is divided by the total frequency, 25: 60/25=2.4. The summary rank for the activity "go to gym" is 2.4.

The computations for the remaining activities produce summary rankings listed in the last column of Table VII. The lowest summary rank number and highest ranking preference is Activity 7: "go to playfield" with a 1.72 summary rank. Next is Activity 5: "talk to friend" with a summary rank of 2.00.

TABLE VII

Priority Ranking

Student Selected Activities		1		2		3		4		5		6		7		8		9		10		Summary Rank
			1(f)	f	2(f)	f	3(f)	f	4(f)	f	5(f)	f	6(f)	f	7(f)	f	8(f)	f	9(f)	f	10(f)	$\frac{\Sigma (R)(f)}{F}$ = Summary Rank
1	Go to Gym	8	8	7	14	5	15	2	8	3	15	0	0	0	0	0	0	0	0	0	0	60/25 = 2.4
2	Sharpen Pencil	0	0	0	0	0	0	4	16	10	50	5	30	2	14	4	32	0	0	0	0	142/25 = 5.68
3	Get Drink of Water	0	0	0	0	0	0	2	8	4	20	10	60	3	21	2	16	2	18	2	20	163/25 = 6.52
4	Correct Papers	7	7	7	14	6	18	5	20	0	0	0	0	0	0	0	0	0	0	0	0	59/25 = 2.36
5	Talk to Friend	10	10	7	14	6	18	2	8	0	0	0	0	0	0	0	0	0	0	0	0	50/25 = 2.00
6	Serve on Committee	4	4	4	8	5	15	3	12	2	10	1	6	2	14	2	16	1	9	1	10	104/25 = 4.16
7	Go to Playfield	12	12	8	16	5	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42/25 = 1.72
8	Play with Clay	6	6	3	16	7	21	3	12	0	0	1	6	0	0	0	0	0	0	0	0	61/25 = 2.44
9	Play with Paints	5	5	7	14	9	27	2	8	2	10	0	0	0	0	0	0	0	0	0	0	64/125 = 2.56
10	Wash Erasers	2	2	4	8	5	15	4	16	5	25	5	30	0	0	0	0	0	0	0	0	96/25 = 3.84

The following list reorders the activities in order of increasing summary ranks and decreasing preferences:

TABLE VIII

Priority #	Activity	Summary Rank
1	Go to Playfield	1.72
2	Talk to Friend	2.00
3	Correct Papers	2.36
4	Go to Gym	2.40
5	Play with Clay	2.44
6	Play with Paints	2.56
7	Wash Erasers	3.34
8	Serve on Committee	4.16
9	Sharpen Pencil	6.68
10	Get Drink of Water	6.52

Step 6: Specify the Number of Reward Points Required to Purchase Time to Spend on Selected Activities

The summary ranks computed in Step 5 may be adjusted so that the first preference is 1 rather than 1.72, and the remaining weighted rankings are proportions of the first rank. For example, 1.72 is to 1 as 2.00 is to X:

(1) $1.72 = 1$
$2.00 = X$

(2) $1.72X = 2.00$

(3) $X = 2.00/1.72$

(4) $X = 1.16$

The second adjusted rank is 1.16. The third rank is 2.36/1.72 or 1.37, the fourth is 2.40/1.72=1.38, etc. The adjusted ranks are listed below:

TABLE IX

Priority #	Activity	Summary Rank	SR/Lowest SR	Adjusted Rank
1	Go to Playfield	1.72	1.72/1.72	1.00
2	Talk to Friend	2.00	2.00/1.72	1.16
3	Correct Papers	2.36	2.36/1.72	1.37
4	Go to Gym	2.40	2.40/1.72	1.39
5	Play with Clay	2.44	2.44/1.72	1.41
6	Play with Paints	2.56	2.56/1.72	1.48
7	Wash Erasers	3.84	3.84/1.72	2.23
8	Serve on Committee	4.16	4.16/1.72	2.41
9	Sharpen Pencil	5.68	5.68/1.72	3.30
10	Get Drink of Water	6.52	6.52/1.72	3.79

Assigning points to each of the 10 activities requires that the upper limits of the economy be specified, i.e., the cost of the most expensive (most valuable) activity, and the cost of each activity be computed by dividing the maximum cost by the activity's adjusted rank. If the maximum cost for any of the activities were 25 points, then the cost of each activity would be:

TABLE X

Priority #	Activity	25/AR	Cost
1	Go to Playfield	25/1.00	25 Points
2	Talk to Friend	25/1.16	22 Points
3	Correct Papers	25/1.37	18 Points
4	Go to Gym	25/1.39	18 Points
6	Play with Paints	25/1.48	17 Points
7	Wash Erasers	25/2.23	11 Points
8	Serve on Committee	25/2.41	10 Points
9	Sharpen Pencil	25/3.30	8 Points
10	Get Drink of Water	25/3.79	7 Points

The cost of each activity will depend upon the magnitute of the token economy. A 50 point economy will include a range of costs proportional to the range for the 25 point economy. Again, the costs are computed by dividing the maximum cost by the adjusted rank of each activity. Table XI below illustrates the costs for 25, 50, 75, and 100 point economies. Noice that the larger the economy the greater the difference between the costs for each activity. The cost difference for the first two activities, "go to playfield" and "talk to friend," is 3 points (25-22) for the 25 point economy and 14 points (100-86) for the 100 point economy. Similarly, the difference between the most expensive and the cheapest activity is 18 points (25-7) for the 25 point economy and 74 points (100-26) for the 100 point economy.

TABLE XI

Student Ranked Activities		Summary Rank	Adjusted Rank	COMPUTED ECONOMIES			
		ERf/N=SR	SR/Lowest AR SR	25 Point Economy 25/AR=Cost	50 Point Economy 50/AR=Cost	75 Point Economy 75/AR=Cost	100 Point Economy 100/AR = Cost
1	Go to Playfield	1.72	1.72/1.72=1.00	25/1 =25 pts.	50/1 =50	75/1 =75	100/1 =100
2	Talk to Friend	2.00	2.00/1.72=1.16	25/1.16=22 pts.	50/1.15=43	75/1.16=65	100/1.16= 86
3	Correct Papers	2.36	2.36/1.72=1.37	25/1.37=13 pts.	50/1.37=37	75/1.37=55	100/1.37= 80
4	Go to Gym	2.40	2.40/1.72=1.	25/1.39=1[illegible] pts.	50/1.39=36	75/1.38=54	100/1.39= 72
5	Play with Clay	2.44	2.44/1.72=1.41	25/1.41=13 pts.	50/1.41=35	75/1.41=53.1	100/1.41= 71
6	Play with Paints	2.56	2.56/1.72=1.48	25/1.48=17 pts.	50/1.49=34	75/1.48=51	100/1.48= 68
7	Wash Erasers	3.84	3.34/1.72=2.23	25/2.23=11 pts.	50/2.23=22	75/2.23=33.6	100/2.23= 45
8	Serve on Committee	4.16	4.16/1.72=2.41	25/2.41=10 pts.	50/2.41=21	75/2.41=31	100/2.41= 42
9	Sharpen Pencils	5.68	5.68/1.72=3.30	25/3.30= 8 pts.	50/3.30=15	75/3.30=22.7	100/3.30= 30
10	Get Drink of Water	6.52	6.52/1.72=3.79	25/3.79=6.5pts.	50/3.79=13	75/3.79=20	100/3.79= 26

Table XII below illustrates that by doubling the magnitude of the economy, you also double the range between the lowest and highest costing activities. The range for the 25 point economy is 18.4 while the range for the 50 point economy is 2 times the 25 point economy's range or 36.8, and the range for the 100 point economy is 2 times 36.8 or 73.6 points, etc.

This information may be useful when deciding which economy to employ. One means of selection requires that the average cost between activities be at least five points, a difference that might be noticably different to students contemplating a purchase. This average difference is computed by dividing the range by the number of activities available, in this case 10. The average cost difference for the economies in Table XII are listed in the last row.

As you can see the average cost for the 50 point economy is less than 5 or 3.6 and the average cost for the 100 point economy is more than 5 or 7.3, which suggests that an economy half way between 50 and 100 points may be appropriate, i.e., the 75 point economy. The range for this economy is 55 (from Table XII) and the average cost difference is 55/10 or 5.5.

TABLE XII

	Selected Economies				
	25 Points	50 Points	100 Points	200 Points	400 Points
Highest Costing Activity	25	50	100	200	400
Lowest Costing Activity	6.6	13.2	26.4	52.8	105.6
Range: HC-LC	18.4	36.8	73.6	147.2	294.4
Average Cost Difference	1.8	3.7	7.4	14.7	29.4

Once an appropriate economy has been selected, in this case the 75 point economy, the cost of each activity may be rounded to the nearest 5 points in order to simplify accounting procedures. Table XIII below illustrates the rounded costs for each activity in the 75 point economy. You will notice that the cost differences between activities are in multiples of 5 points with the range from 20 points for the least expensive to 75 points for the most expensive activity.

TABLE XIII

Priority #	Activity	Raw Cost	Rounded Cost
1	Go to Playfield	75	75
2	Talk to Friend	65	65
3	Correct Papers	55	55
4	Go to Gym	54	55
5	Play with Clay	53.1	55
6	Play with Paints	51	50
7	Wash Erasers	33.6	35
8	Serve on Committee	31	30
9	Sharpen Pencil	22.7	20
10	Get Drink of Water	20	20

Step 7: Identify Procedures to Account for Points Earned and Expended

An effective accounting system is necessary for successfully administering a token economy. Points earned, spent, and resulting balances must be computed and recorded regularly. The system need not be elaborate, but should include accounting procedures for both the teacher and student's records. This will avoid confusion and disagreements about the amounts that have been earned, spent on activities, or left in the balance.

The student's accounting system may consist of a bank book, similar to the one illustrated in Table XIV which keeps daily records of points earned, P.E., points spent, P.S., and the balance on hand, BAL. This bank book can be used for a 10-week period or one quarter of a three-quarter school year. Each day the student records the number of points he has earned, spent, and the resulting balance:

TABLE XIV

THIS BANK BOOK BELONGS TO:

____

	DATE	P.E.	P.S.	BAL.
WEEK 1				
WEEK 2				
WEEK 3				
WEEK 4				
WEEK 5				

	DATE	P.E.	P.S.	BAL.
WEEK 6				
WEEK 7				
WEEK 8				
WEEK 9				
WEEK 10				

The teacher's accounting system also records each student's points earned, spent, and the balance on hand. In addition, the teacher computes the ratio of points earned to points spent and the weekly and monthly average P.E./P.S. This is computed by dividing P.E./P.S. by the number of days that entries were recorded.

The ratio of points earned to points spent is a measure of the student's transactions, his earnings divided by his expenditures. When earnings are greater than expenditures, the ratio is greater than 1, when earnings are less than expenditures, the ratio is less than 1, and when earnings and expenditures are equal, the ratio is equal to 1.

For ratios greater than 1, the student may be earning more points than he requires to satisfy his needs, he may be saving his points for an expensive activity to be purchased later, or he may not value any of the activities available for purchase. If he is earning more than he needs, the teacher may consider altering the student's work-reward ratio on selected assignments, requiring more work for the same rewards, e.g., instead of 20 correct responses for a point, 40 are required. The effect will be to decrease his earnings and eventually increase his output. If the student is saving for an expensive activity the economy is having an appropriate effect. If the student is not spending points on any of the activities and is not saving for an expensive purchase, then he may not value any of the available activities. The teacher should consider altering the available privileges to include those that will have a greater effect.

For ratios less than 1 the student is earning less points than he needs and will eventually deplete his bank reserves. This is an understandable consequence of saving points for an expensive purchase. The ratio is greater than 1 while saving points on Weeks 1 and 2, and then less than 1 when purchasing the activity on Week 3. For another student the ratio may be less than one because he is allowed to purchase an activity on credit, on the condition that he pays for the activity from his earnings for the following day. When this occurs frequently enough, the student may get deeper and deeper into debt, until the teacher is no longer willing to extend credit, insisting that he pay what he owes by working for a period with no expenditures. These conditions usually do not motivate performance and should be avoided. For example, if the student's work-reward ratios are inappropriate to meet his motivational needs, they should be temporarily reduced, so that he can earn more points for the same amount of work. Once he is again working regularly, the ratios may be leaned gradually so he works successively longer assignments.

For ratios equal to 1, the student spends the same amount that he earns. Over a period of several weeks, the ratios for all students motivated by the economy should be equal to 1. When ratios are less or greater than 1, indicating the students are spending too much or too little, alterations may be needed in the work-reward ratios, or in the activities available for purchase.

Table XV illustrates a student's sample data sheet for a 10-week period. By taking weekly and monthly averages of the P.E./P.S. ratio, the teacher can evaluate the effects of the economy on each student's transactions.

TABLE XV

Student Name ______________________________

Date Begin ______________________
Day Month Year

	DATE	P.E.	P.S.	BAL.	P.E./P.S.
WEEK 1					
				Average	

WEEK 2					
				Average	

WEEK 3					
				Average	

WEEK 4					
				Average	

WEEK 5					
				Average	

Monthly Average: ____________

	DATE	P.E.	P.S.	BAL.	P.E./P.S.
WEEK 6					
				Average	

WEEK 7					
				Average	

WEEK 8					
				Average	

WEEK 9					
				Average	

WEEK 10					
				Average	

Monthly Average: ____________

Step 8: Specify the Daily or Weekly Time Intervals for Spending Points

Purchasing activities should be scheduled so that students can plan ahead and decide which activities they wish for the following day or week. When transaction periods are not specified, recording point exchanges can become difficult, with the teacher spending too much time responding to the students as they suddenly decide to purchase an activity. By setting aside one period each day or each week, the teacher can record the transactions of all students as they purchase activities for the following day or week.

PART 2: A Program for Assessing Social Skills and Remediating Social Deficits

Interaction patterns can be evaluated and assessed in the classroom by observing and recording 1) the child's rates of initiating verbal contacts with specified peers and adults, 2) his rates of receiving verbal contacts from specified peers and adults, 3) his rates of initiating physical contacts with specified peers and adults, and 4) his rates of receiving physical contacts with specified peers and adults. Sociograms constructed from these data not only depict his position in the social structure of the classroom but also identify the child's areas of social competence and/or deficiency.

Social skills can be assessed by employing the methods of Experimental Analysis. These procedures require three condition changes, with the initial condition introducing an individual contingency to motivate performance on a specified task, e.g., for every X responses correct the student earns one reward point. When this A Condition terminates after the response rates have stabilized, the second condition introduces a social contingency to replace the individual contingency. This B Condition also continues until a stable performance level is established. During the final Condition, A', the individual contingency is reintroduced to replace the social contingency.

The teacher or remedial therapist can evaluate the appropriateness of the student's responses to the social contingency by comparing his response rates during the B Condition when the social contingency was in effect with the rates during the A and A' Conditions when the individual contingency was in effect.

The three social contingencies to employ when evaluating social skills are the exchange contingency, during which reinforcement for one person is contingent upon a response from another, whose reinforcement, in turn, is contingent upon responses from the first; the cooperative contingency, during which reinforcement of two or more group members is contingent upon the responses of two or more group members; and the competitive contingency, during which the reinforcement of either subject is contingent upon achieving a higher performance level than the other.

Remediating social deficiencies identified with either the interaction or social process assessment procedures necessitates altering task interdependence, feedback conditions and/or social contingencies to facilitate the shaping of specified social interaction patterns and skills. Task interdependence is the social condition required to complete a task. An independent task requires the responses of a single subject for task completion while an interdependent task requires the responses of two or more subjects for task achievement. Social feedback conditions are the opportunities for a subject to obtain such information as 1) how Self is doing on a task, feedback on Self, 2) how Self's partner is doing on the task, feedback on Other, 3) how Self's group is doing on the task, feedback on own group, and 4) how the other group is doing on the task, feedback on other group.

The three social processes include two classes of behavior, task and feedback responses. During the exchange process, for example, feedback and task responses may be correlated as subjects exchange favors. One person provides a babysitting service for a friend, while expecting that a comparable favor will be reciprocated at some later date. The task behaviors are the babysitting responses required to successfully complete the service, and the feedback responses include observing and recording, mentally of course, the frequency and length of time that services were rendered. This information is necessary to determine the equity of forthcoming reciprocated favors. Both partners to the exchange engage in these monitoring, auditing, or feedback behaviors, to ensure an equitable pattern of reciprocity over time.

During the cooperative process the correlated responses emitted during the cooperative contingency may similarly be classified as task and feedback behaviors. As two children work together on a teeter-toter, for example, they coordinate their leg pushes so that one subject pushes from the ground while the other rests, who then pushes from the ground while the first rests. The net effect may be a smooth teeter-toter ride. Feedback behaviors include watching each other to see when and how hard the other pushes. This information assists the subject sitting high in the air prepare himself for the landing. The feedback behavior, watching other as he fulfills his role in the interdependent task, facilitates the coordinated pattern. Additional feedback may result from the verbalizations between the two as they transfer information about the appropriateness of the leg pushes. When one subject pushes too hard causing the other to loose his seat, the consequences may be verbalizations such as: "not so hard" or slow down."

During the competitive process correlated feedback and task responses may be emitted when the contingency is in effect. For example, in a foot race the subjects' task behaviors are running the prescribed distance, and their feedback behaviors might include turning their heads to see who is ahead of whom and by how far, or to estimate the distance to the goal. Such feedback responses may subsequently alter the competitors' task behaviors, as the runner who is far ahead may slacken his pace, believing he is far enough ahead to relax a bit and still win.

This program has two parts, one presenting an outline of important social behavior needs and appropriate remedial objectives for meeting each of those needs, and the other which describes a set of procedures for assessing and remediating social deficits. The outline begins by identifying a general goal of increasing the interaction and social process skills of social isolates. The subsequent list of needs and objectives specifies in greater detail the types of needs requiring remediation and the measurable objectives that will provide the proper focus for an effective remedial program. Needs assessment and remediation procedures follow this outline describing in some detail the steps that will assist the teacher in assessing the level of a child's social need and also will guide her efforts in developing a remedial program to reduce this need by establishing appropriate social skills.

A. An Outline of Social Behavior Needs and Corresponding Objectives

Goal: To increase social isolates' interactions with others and to develop socially deficient childrens' interaction skills.

1a.	Need:	Some students do not interact with their peers and are social isolates.
1b.	Objective:	To increase social isolates' interactions with their peers.
2a.	Need:	Some students do not respond appropriately during cooperative contingencies as their performance levels decrease during these conditions.
2b.	Objective:	To develop these students' social skills so that they perform during cooperative contingencies as well as during individual contingencies.
3a.	Need:	Some students do not respond appropriately during exchange contingencies as their performance levels decrease during these conditions.
3b.	Objective:	To develop these students' social skills so that they perform during exchange contingencies as well as during individual contingencies.
4a.	Need:	Some students do not respond appropriately during the competitive contingency as their performance levels remain unchanged when compared with levels during the individual contingency.
4b.	Objective:	To develop these students' social skills so that they perform at higher rates during competitive contingencies than during individual contingencies.

5a. Need: Some students do not respond appropriately during competitive contingencies as their performance levels decrease during these conditions.

5b. Objective: To develop these students' social skills so that they perform during the competitive contingency as well as during the individual contingency.

6a. Need: Some students do not respond appropriately during intragroup cooperative and intergroup competitive contingencies as their rates remained unchanged when compared with rates during the individual contingency.

6b. Objective: To develop students' social skills so that they perform at higher rates during intergroup competitive contingencies than during individual contingencies.

B. Social Behavior Needs Assessment and Remediation Procedures

1A: Some students do not interact with their peers and are social isolates:

Procedures

Step 1: Observe each student in the classroom for selected periods each day when students are free to interact with their peers, i.e., lunch time, free time, etc.

Step 2: Record 1) the frequency of verbal initiations toward peers, i.e., the number of times the student emits a verbalization directed towards another peer, 2) the frequency of verbal contacts other students initiate toward the observed student, 3) the number of physical contacts the observed initiates towards peers, and 4) the number of physical contacts peers initiate towards the observed student.

Step 3: Rotate the observation period regularly from student to student on a schedule that assures that each student has been observed for comparable periods.

Step 4: Continue this observation and recording procedure for 7 to 10 days or until the give and receive rates stabilize (number of gives divided by time of observation period constitute the give rate, and similarly for the receive rate).

Step 5: Plot each student's rates of giving and receiving verbalizations and physical contacts on two graph sheets, one for verbal gives and receives and the other for physical gives and receives.

Step 6: Evaluate each student's social interaction needs by observing the graphs over a 7 to 10 day period.

Step 7: Students highest in need will show the lowest rates of verbal and physical gives and receives.

Step 8: By recording both physical and verbal social responses one can identify the students' greatest strengths and begin the remediation program from there. If physical gives and receives are higher than verbal, the remediation procedure may begin by reinforcing more physical interactions first and then verbal interactions later.

Step 9: By recording both gives and receives one can identify the students' interaction deficits. If initiations are low but other students respond to the isolate, remediation may begin by reinforcing reactions to peer initiations. On the other hand, if receives are low while initiations are high remediation may begin by reinforcing other students for responding to the isolate. The goal of course is 1) to increase the overall level of interaction, both gives and receives, and 2) to increase gives and receives to comparable rate levels so that students' give rates are comparable to their receive rates.

Step 10: For further assessment, the procedure should provide data on who the social isolate responded to and which peers responded to the isolate. This information would be helpful in identifying the peer most likely to respond appropriately in the remediation effort. The following method might be employed in a small class of students:

TABLE XVI

VERBAL SCORES

Time Period	Observed Student	Student Number								
		1	2	3	4	5	6	7	8	
0-10 min.	1	▩	////		/		//		/	8
11-20 min.	2	/////	▩	/	///	/		/		10
21-30 min.	3			▩				//	////	6
31-40 min.	4	//	///		▩		/////			10
41-50 min.	5		///		/	▩		///		7
51-60 min.	6	///			//		▩		/	6
61-70 min.	7		/			//		▩		3
71-80 min.	8	//		////			//		▩	8
		12	11	5	6	3	9	6	6	Total

The observer codes all gives and receives while discriminating between verbal or physical contacts. This table illustrates how verbal data may be recored to identify the observation period which is divided into 10-minute intervals. The second column identifies the student being observed for that period. The cells in the third set of eight columns identify, by student, the frequency that the observed either initiated or received a verbalization from that student. For example, during the first 10-minute period (0-10 minutes) S1 was observed to talk with S2 four times, S4 once, S6 twice, and S8 once, for a total of eight social contacts for that period.

Step 11: For still further assessment information, one can discriminate between initiations and receives, i.e., who initiated the social contact, or discriminate between verbal and physical contacts. Table XVII below has an additional row for each observation period, one for verbal and one for physical contacts. The diagonals dividing each cell identify gives (right half) and receives (left half). When S1 initiates verbally to S2, the datum is recorded in the left half of the second cell in the first row.

TABLE XVII

COLUMN II

Time	Observed Student	Response	S1	S2	S3	S4	S5	S6	S7	S8	Row
0-10 min.	S1	V	G R								1
		P	G R								2
11-20 min.	S2	V		R							3
		P		G R							4
21-30 min.	S3	V			G R						5
		P			G R						6
31-40 min.	S4	V				G R					7
		P				G R					8
41-50 min.	S5	V					G R				9
		P					G R				10
51-60 min.	S6	V						G R			11
		P						G R			12
61-70 min.	S7	V							G R		13
		P							G R		14
71-80 min.	S8	V								G R	15
		P								G R	16

Step 12: After observing and recording these data for a 7-10 day period, when students have opportunity to interact, the data can be further analyzed by identifying the rate, response, reciprocity, and range of the social contacts.

The rate characteristic is computed by summing and then averaging the gives and receives for both verbal and physical response categories for each student, and then ranking, with those students highest in need being lowest in the rank order. For example:

TABLE XVIII

Subject	$\overline{X}$ Social Contact Rate
S1	10.0 /minute
S5	9.0 /minute
S3	7.5 /minute
S8	6.0 /minute
S6	5.0 /minute
S4	3.0 /minute
S2	2.5 /minute
S7	.25/minute

Step 13: Response characteristics for social contacts can be specified by ranking students for both verbal and physical contacts. Averaging both give and receive rates together for physical and verbal contacts you would get something like this:

TABLE XIX

Subject Ranking for Verbal Contacts

S	$\overline{X}$
S5	11 /minute
S1	10 /minute
S3	9.5 /minute
S6	8 /minute
S8	6 /minute
S4	3 /minute
S7	1 /minute
S2	.25/minute

TABLE XX

Subject Ranking for Physical Contacts

S	$\overline{X}$
S1	5 /minute
S5	4 /minute
S6	3.5/minute
S3	3. /minute
S4	2 /minute
S7	2.5/minute
S8	1 /minute
S2	.5/minute

Step 14: A summary ranking of reciprocal characteristics of social contacts can be identified by ranking students according to their average give and receive rates for both physical and verbal response classes combined, as the two rankings below illustrate:

TABLE XXI

Subject Ranking for Average Give Rates

S	$\bar{X}$
S1	12/minute
S3	10/minute
S5	7/minute
S8	5/minute
S6	4/minute
S2	3/minute
S4	2/minute
S7	1/minute

TABLE XXII

Subject Ranking for Average Receive Rates

S	$\bar{X}$
S3	13/minute
S1	11/minute
S5	10/minute
S8	9/minute
S2	8/minute
S6	6/minute
S4	4/minute
S7	3/minute

Step 15: Finally, social response characteristics can be assessed still further by ranking students according to specified partners in the interaction that the students had both gives and receives, only gives, or only receives. For example, the table below lists the students according to the number of different social partners each had on both give and receives, only gives, and only receives:

TABLE XXIII

Column # 1	2	3	4	5	6
Subject Rank	Partner Gives & Receives	Subject Rank	Partner Gives Only	Subject Rank	Partner Receives Only
S1	S3, S5 S8, S4	S2	S1, S3 S5, S8	S1	S2, S7 S6
S3	S1, S5 S8	S7	S1, S5 S8	S5	S2, S7
S5	S1, S3	S6	S1	S8	S2, S7
S8	S1, S3	S1	------	S2	------
S4	S1	S3	------	S3	------
S2	------	S4	------	S4	------
S6	------	S5	------	S6	------
S7	------	S8	------	S7	------

From Column 1 we see that S1 had the most partners involving both receives and gives, Column 2. S3 had three give and receive partners, S5 and S8 had two, and S4 had one partner. From Column 3 we see that S2 had the most partners for one-way social contact (from subject to partner), S7 had three, and S6 one partner in that category, Column 4. From Column 5 we can see that S1 had the most partners for one-way contact (from partner to subject), and S5 and S8 tied for the second rank with two each in that category, Column 6.

Step 16: These data taken together allow an in depth assessment of the social contact characteristics of each student. Clearly a student may be high in one ranking and low in another. General statements about students' positions on all of the rankings can be obtained by adding together the rank of each scale and dividing by total number of scales, 8. This permits a summary statement about students' social deficits vis-a-vis his classmates. Table XXIV below summarizes by student number all the ranks of each scale:

TABLE XXIV

Scales	1	2	3	4	5	6	7	8	
						Partners to Interact			
Student #	Total Contacts	Gives	Receives	Verbal	Physical	Gives & Receives	Gives	Receives	Student Rank
S1	1	1	2	2	1	1	4	1	1.62
S2	7	6	5	8	8	6	1	4	5.62
S3	3	2	1	3	4	2	4	4	2.87
S4	6	7	7	6	5	5	4	4	5.50
S5	2	3	3	1	2	3	4	2	2.50
S6	5	5	6	4	3	6	3	4	4.50
S7	8	8	8	7	6	6	2	4	6.12
S8	4	4	4	5	7	4	4	3	4.37

The summary rank obtained by summing each student's rank and dividing by 8 yields the summaries in Column 10. The revised rank according to this final ranking is listed below:

TABLE XXV

Rank	Subject #	Summary Rank
1	S1	1.62
2	S5	2.50
3	S3	2.87
4	S8	4.37
5	S6	4.50
6	S4	5.50
7	S2	5.62
8	S7	6.12

These social behavior data also suggest the specific deficits requiring remediation and the corresponding objectives appropriate to each. For example four goals might be 1) to increase the level of a student's interactions with Other, i.e., increase his interaction rate, 2) to increase the initiation or receive rate, whichever is lower, 3) to increase the verbal or physical rates, whichever is lower, or 4) to increase the number of partners included in the student's interaction patterns.

Step 17: The first goal, to increase the level of interaction, is appropriately prescribed when the student ranks low on Scale 1 for total interaction. For example, in Step 16 S7 ranked eighth on the summary scale, indicating he had the lowest overall rates for social contacts. The teacher may wish to increase S7's general level of interaction.

Step 18: The second goal, to increase the initiation or receive rate, is appropriately prescribed when a student ranks low on Scales 2 or 3 in the table for Step 16. Here, for example, S7 ranked eighth on the give and receive components of social contacts, suggesting that the teacher may wish to increase the student's rates of initiating contacts with other students and also to increase other students' rates of initiating contacts with S7.

Step 19: The third goal, to increase verbal and physical social contact, is appropriately prescribed when 1) both verbal and physical rates are low, or 2) when only physical rates are low, or 3) when only verbal rates are low. On some occasions, however, when verbal rates are high while physical rates are low, remediation may not be needed, especially when the ultimate goal is to achieve a high verbal interaction rate. In the summary table for Step 16, S2 ranked eighth on both verbal and physical scales, indicating that remediation is needed. Other students also ranking low on the scales are S7 and S8.

Step 20: The fourth goal, to increase the number of partners to the interaction, is appropriately prescribed when students rank low on Scales 6-8. For example, in Step 16 S2, S6, and S7 ranked last, indicating that their range of social contacts should be increased. From Scale 7 we can see that all three ranked high on their initiation rates (Ranks 1, 3, and 2 respectively), while ranking last on receive rates, Scale 8. This suggests that the three initiate at appropriately high levels but do not receive contacts from others. The revised program for remediation should focus on altering peer reactions to these students' initiations as well as changing the nature of their own initiations (which may, in fact, be a major source of the problem).

1b. To increase social isolates' interactions with their peers.

Remediation Procedures

Step 1: Introduce task materials that can be arranged to require responses from two or more persons for task completion.

Step 2: Employ individual contingencies to increase the social isolate's performance on the task materials.

Step 3: Introduce a second child and employ individual contingencies to increase his performance on similar task materials.

Step 4: Arrange the task materials so that both students must respond on the same task for task completion.

Step 5: Provide individual reinforcement for the joint or coordinated responses each student makes when attempting to complete the task.

Step 6: Discontinue all reinforcement for alternative nonsocial responses.

2a. Some students do not respond appropriately during exchange contingencies as their performance levels decrease during these conditions.

Assessment Procedures

Step 1: Introduce selected independent task assignments for two students sitting in adjacent desks.

Step 2: Introduce an individual contingency by providing immediate reinforcement for each student after X number of problems have been completed correctly.

Step 3: Over a 7-10 session observation period when this contingency is in effect, observe and record each student's rate of working the assigned problems. Plot the results on graph paper.

Step 4: Introduce the exchange contingency by reinforcing Student 2 for Student 1's task achievements, and reinforcing Student 1 for Student 2's task achievements. Reinforcers should be delivered at the same work-reward ratio as in the individual contingency.

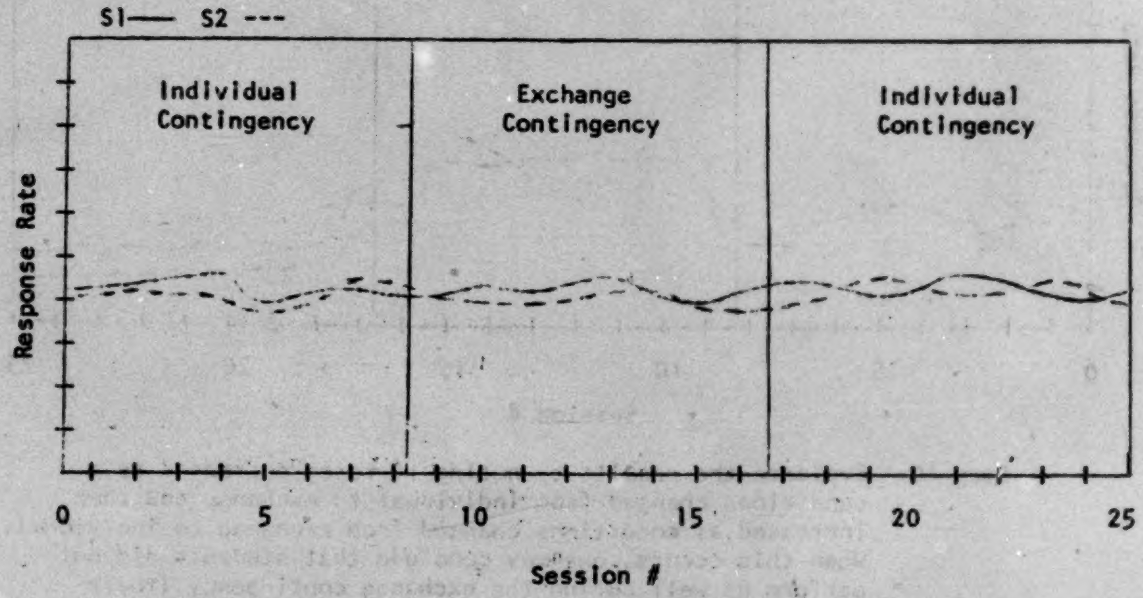
Step 5: Continue to observe and record each student's performance rates for the second period of 7-10 sessions and until the rates have stabilized (neither increasing nor decreasing). Plot these results on graph paper.

Step 6: Discontinue the exchange contingency and reintroduce the individual contingency as in Step 2.

Step 7: Continue to observe and record each student's performance rates for a third period of 7-10 sessions and until the rates have stabilized.

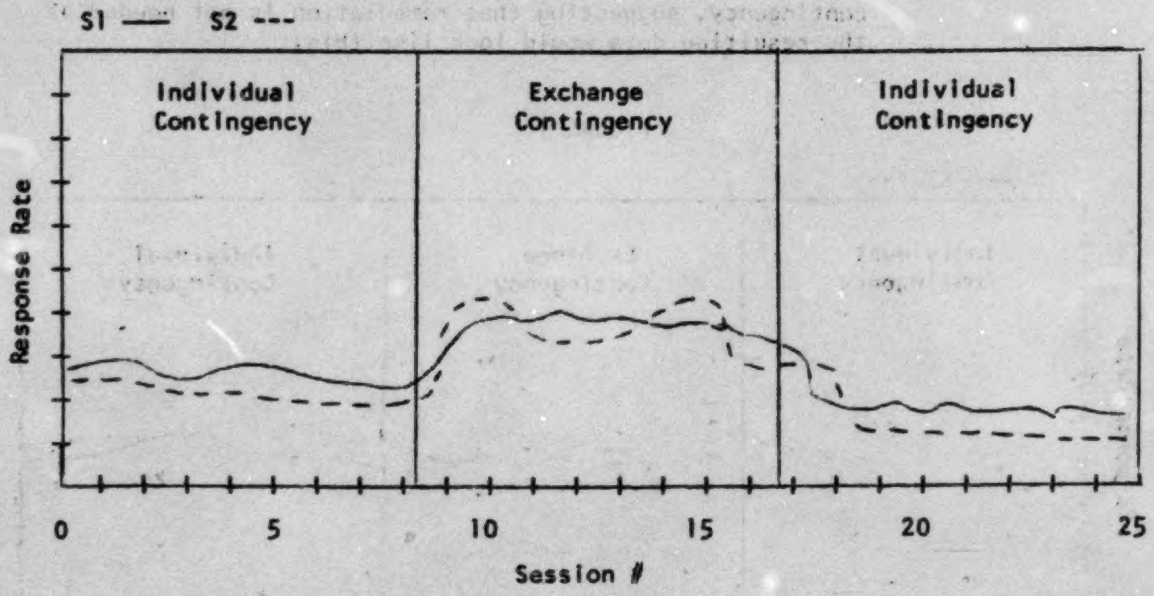
Step 8: Evaluate the results by noting if the rates remained constant as conditions changed from individual to exchange and then back to the individual contingency again, i.e., the rates neither increased nor decreased. When this occurs, one may conclude that the students worked as well during the exchange contingency as during the individual contingency, suggesting that remediation is not needed as the resulting data would look like this:

FIGURE 1



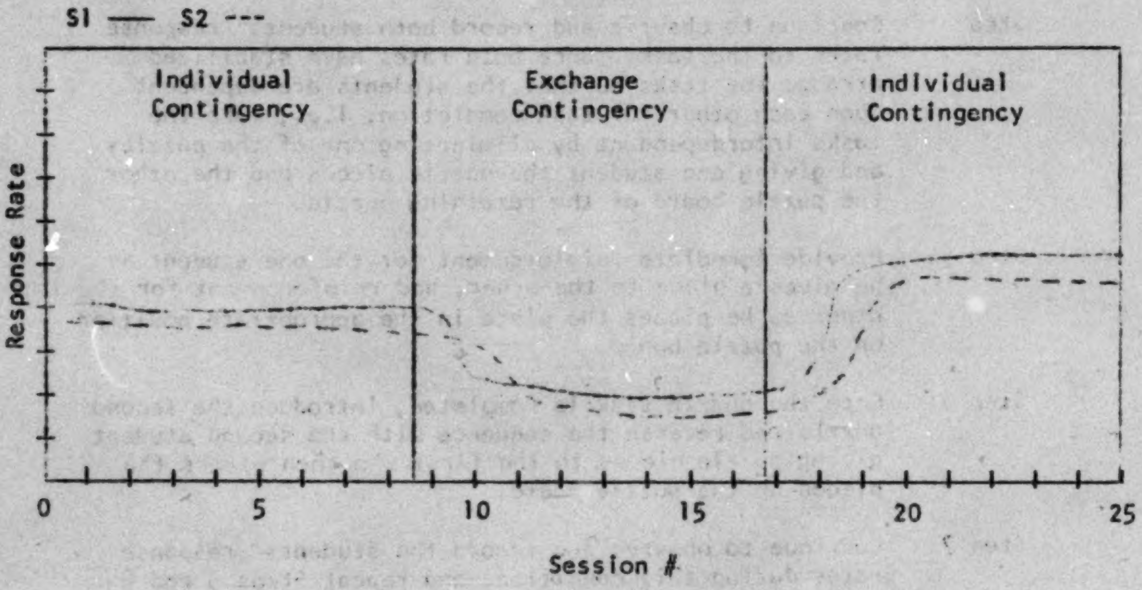
Step 9: Evaluate the results by noting if the rates increased as conditions changed from individual to exchange and then decreased as conditions changed from exchange to individual. When this occurs, one may conclude that the students work better, at higher rates, during the exchange contingency than during the individual contingency. No remediation is needed as the resulting data would look like this:

FIGURE 2



Step 10: Evaluate the results by noting if rates decreased as conditions changed from individual to exchange and then increased as conditions changed from exchange to individual. When this occurs, one may conclude that students did not perform as well during the exchange contingency (their rates were lower) as during the individual. When this occurs, one may conclude that students did not perform as well during the exchange contingency (their rates were lower) as during the individual contingency, and some remediation is needed as the resulting data would look like this:

FIGURE 3



2b. To develop these students' social skills so that they perform during exchange contingencies as well as during individual contingencies.

Remediation Procedures

Step 1: Introduce task materials that can be arranged as independent, requiring the responses of a single person; or interdependent, requiring the responses of two or more for task completion. Puzzles that have both pieces and puzzle board backings offer this flexibility as one person can work the puzzle alone, or two can work together, especially when the materials are distributed so that one has the puzzle pieces and the other has the board backing.

Step 2: Employ an individual contingency to motivate performance on the selected task, e.g., provide a reinforcer immediately after the student correctly places a piece on the puzzle board.

Step 3: Observe and record the student's rate of working the puzzle, i.e., number of correct puzzle placements/minute. Once his rate has stabilized, introduce a second student to sit across from the first and work a similar task under the same individual contingency.

Step 4: Continue to observe and record both students' response rates to the task. Once both rates have stabilized arrange the tasks so that the students are dependent upon each other for task completion, i.e., make the tasks interdependent by eliminating one of the puzzles and giving one student the puzzle pieces and the other the puzzle board of the remaining puzzle.

Step 5: Provide immediate reinforcement for the one student as he gives a piece to the other, and reinforcement for the other as he places the piece in the appropriate position on the puzzle board.

Step 6: Once the puzzle task is completed, introduce the second puzzle and reverse the sequence with the second student giving puzzle pieces to the first who then places the pieces on the puzzle board.

Step 7: Continue to observe and record the students' response rates during this condition, and repeat Steps 5 and 6 until their rates are as high as during the previous condition.

Step 8: Introduce both puzzles, and at the same time, make them interdependent by exchanging puzzle pieces so that Person 1 must obtain his puzzle pieces from Person 2, who must then get his pieces from Person 1. Only reinforce students for placing their puzzle pieces in the appropriate board positions. This is the exchange contingency, Person 1 provides the occasion for Person 2's reinforcement by giving him a puzzle piece, and similarly, Person 2 provides the occasion for Person 1's reinforcement also by giving him a puzzle piece.

Step 9: Continue to observe and record the students' response rates during this condition and reintroduce individual reinforcements for giving puzzle pieces to Other if the rates decrease.

Step 10: Gradually lean the schedule of individual reinforcement so that increasingly more giving responses are required for a reinforcer until the individual contingency is discontinued altogether and the exchange contingency maintains the exchange behaviors.

3a. Some students do not respond appropriately during cooperative contingencies as their performance levels decrease during these conditions.

Assessment Procedures

Step 1: Introduce selected independent task assignments for two students as they sit in adjacent desks.

Step 2: Introduce an individual contingency by providing immediate reinforcement for each student after X number of problems have been completed correctly.

Step 3: Over a 7-10 session observation period when this contingency is in effect, observe and record each student's rate of working the assigned problems. Plot the results on graph paper.

Step 4: Introduce the cooperative contingency by reinforcing both students after they have responded correctly (or after X number of correct responses).

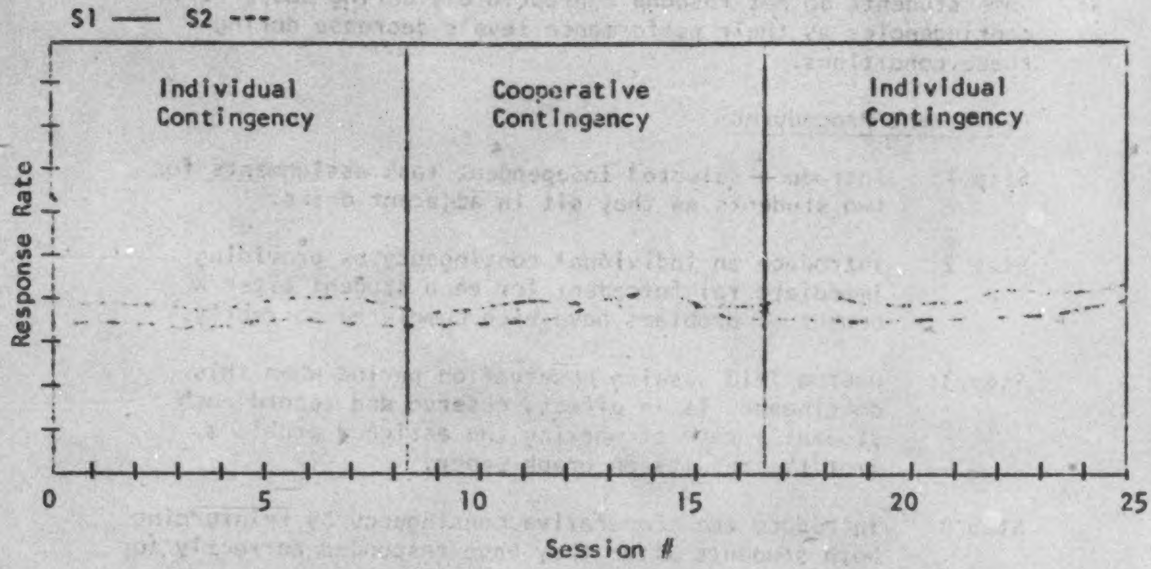
Step 5: Continue to observe and record each student's performance rate for the second period of 7-10 sessions and until the rates have stabilized (neither increasing nor decreasing). Plot these results on graph paper.

Step 6: Discontinue the cooperative contingency and reintroduce the individual contingency of Step 2.

Step 7: Continue to observe and record each student's performance rates for a third period of 7-10 sessions and until the rates have stabilized.

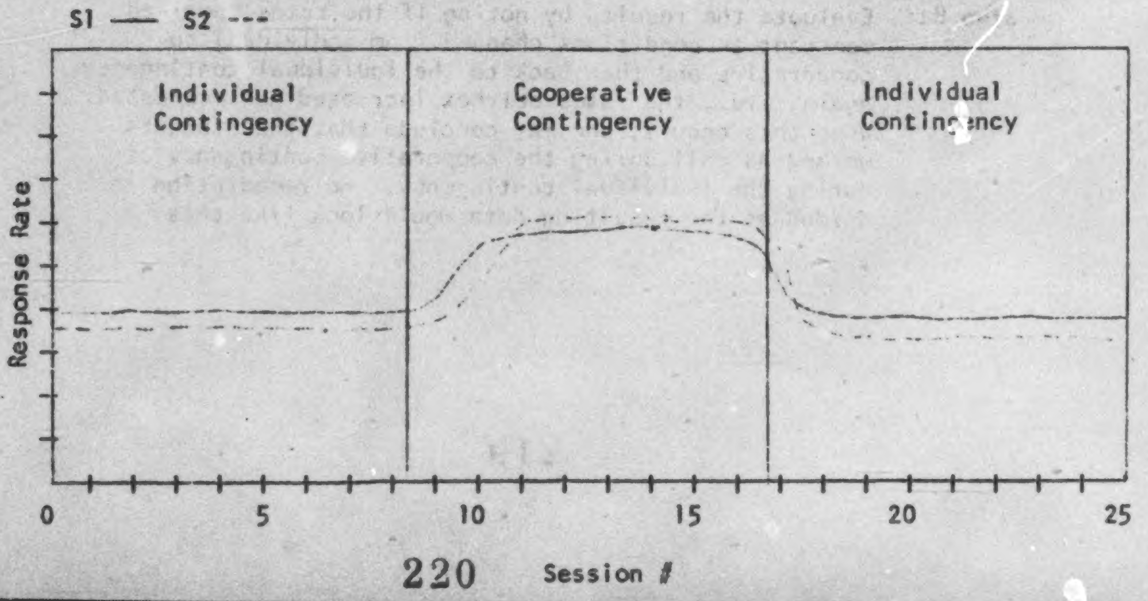
Step 8: Evaluate the results by noting if the rates remained constant as conditions changed from individual to cooperative and then back to the individual contingency again, i.e., the rates neither increased nor decreased. When this occurs, one may conclude that the students worked as well during the cooperative contingency as during the individual contingency. No remediation is needed as the resulting data would look like this:

FIGURE 4



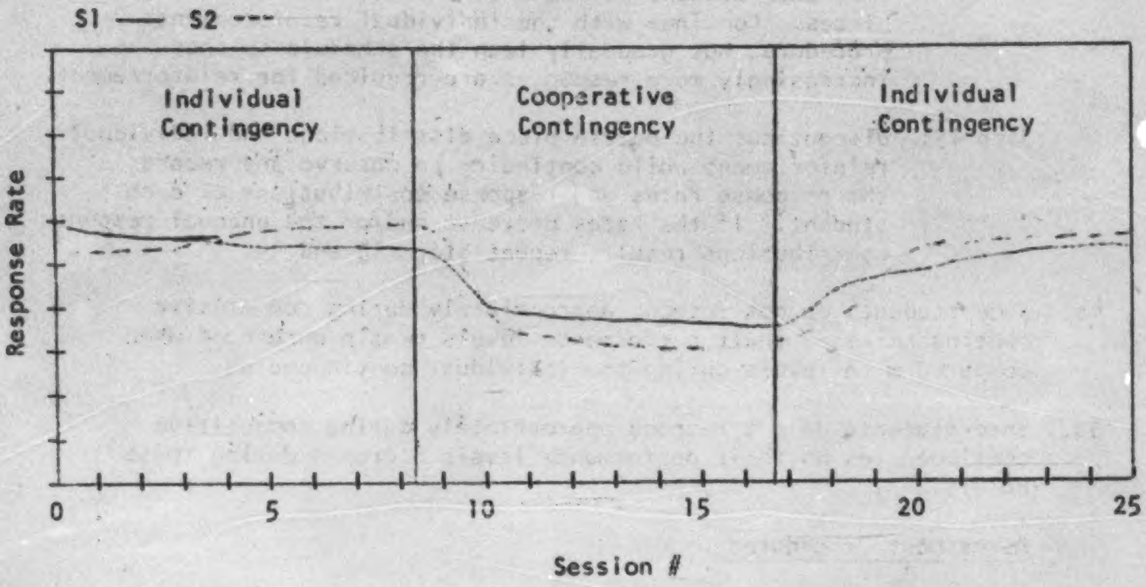
Step 9: **Evaluate the results by noting if the rates increased as conditions changed from individual to cooperative and then decreased as conditions changed from cooperative to individual. When this occurs, one may conclude that the students work better (at higher rates) during the cooperative contingency than during the individual contingency. No remediation is needed as the resulting data would look like this:**

FIGURE 5



Step 10: Evaluate the results by noting if rates decreased as conditions changed from individual to cooperative and then increased as conditions changed from cooperative to individual. When this occurs, one may conclude that the students did not perform as well during the cooperative contingency (rates were lower) as during the individual contingency, and some remediation is needed as the resulting data may look like this:

FIGURE 6



3b. To develop these students' social skills so that they perform during the cooperative contingency as well as during individual contingencies.

Remediation Procedures

Steps 1-10: Same as for the exchange program.

Step 11: Situate the students side by side and provide a single puzzle for them to work. Observe and record their rates of completing the puzzle and the proportion of responses each contributes to task completion.

Step 12: Provide a reinforcer for both students after the task is completed.

Step 13: Continue to observe and record the puzzle completion rate and if the proportion of responses each contributed to task completion is unequal, provide individual reinforcement for each student as he places each piece in the puzzle.

Step 14: If the unequal proportion of responses contributed by each continues, distribute the puzzle pieces equally, with each student having access to an equal number of pieces. Continue with the individual reinforcement procedure, but gradually lean the schedule so that increasingly more responses are required for reinforcement.

Step 15: Discontinue the puzzle piece distributions and individual reinforcement while continuing to observe and record the response rates and response contributions of each student. If the rates decrease and/or the unequal response contributions result, repeat Steps 13 and 14.

4a. Some students do not respond appropriately during competitive contingencies as their performance levels remain unchanged when compared with levels during the individual contingencies.

5a. Some students do not respond appropriately during competitive contingencies as their performance levels decrease during these conditions.

Assessment Procedures

Step 1: Introduce selected independent task assignments for students sitting in adjacent desks.

Step 2: Introduce an individual contingency by providing immediate reinforcement for each student after X number of problems have been answered correctly.

Step 3: Over a 7-10 session observation period when this contingency is in effect, observe and record each student's rate of working the assigned problems. Plot the results on graph paper.

Step 4: Introduce the competitive contingency by instructing the students that in addition to reward points earned for working problems correctly, the one to finish first will receive a bonus. Then provide an additional reinforcement for the student who finishes first.

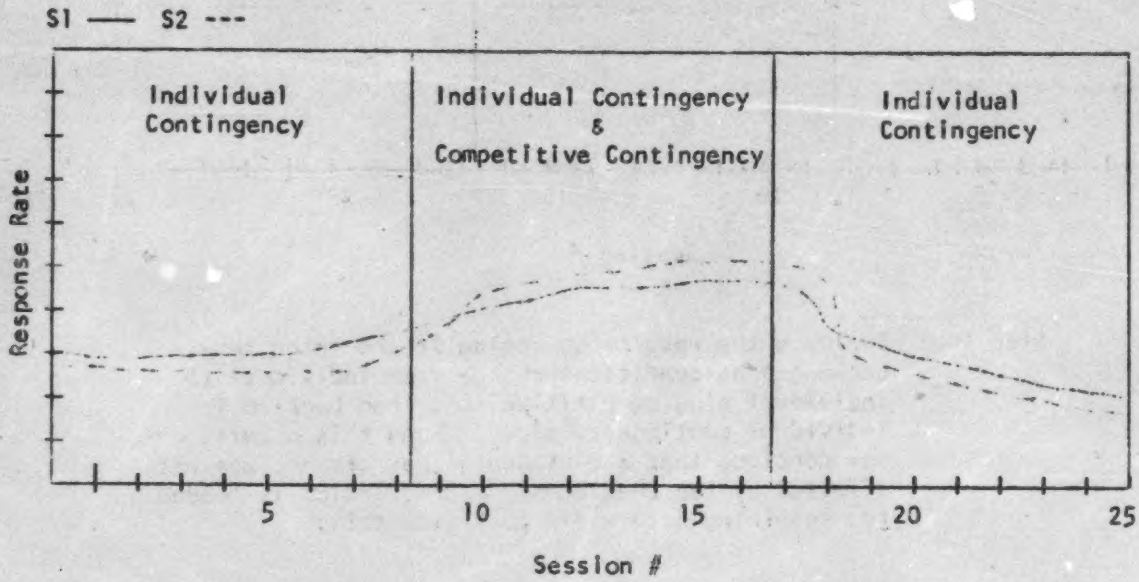
Step 5: Continue to observe and record each student's performance rates for the second period of 7-10 sessions and until the rates have stabilized (neither increasing nor decreasing). Plot these results on graph paper.

Step 6: Discontinue the competitive contingency and continue with the individual contingency.

Step 7: Continue to observe and record each student's performance rates for a third period of 7-10 sessions and until the rates have stabilized.

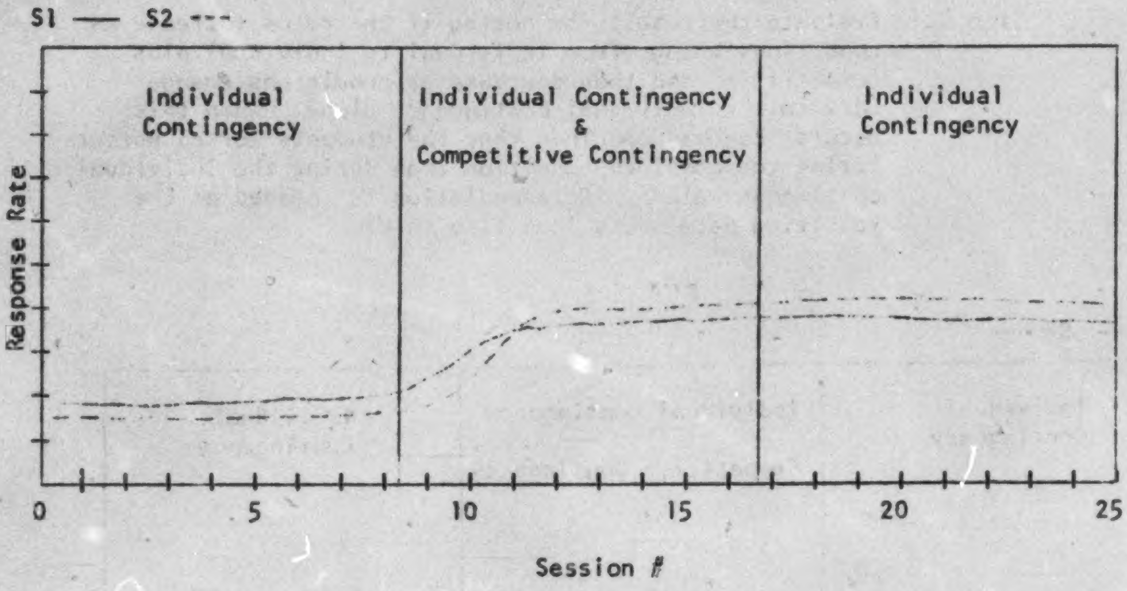
Step 8: Evaluate the results by noting if the rates increase as conditions change from individual to individual plus competitive, and then decrease as conditions change back to the individual contingency alone. When this occurs, one may conclude that the students worked better during the combined condition than during the individual contingency alone. No remediation is needed as the resulting data would look like this:

FIGURE 7



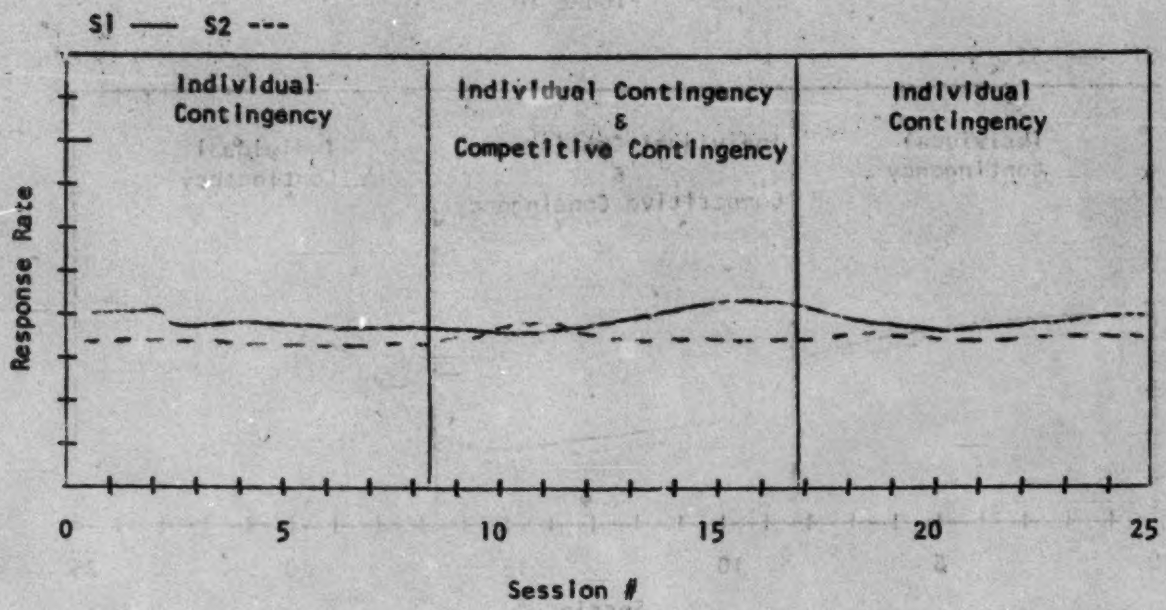
Step 9: Evaluate the results by noting if the rates increase as conditions change from individual to individual plus competitive, and then remain high as conditions change back to individual contingency alone. When this occurs, one may conclude that the students worked at least as well during the competitive contingency as in the individual contingency, and they may have been motivated to work harder during the competitive contingency and continued in that pattern even when the contingency was discontinued. No remediation is needed as the resulting data would look like this:

FIGURE 8



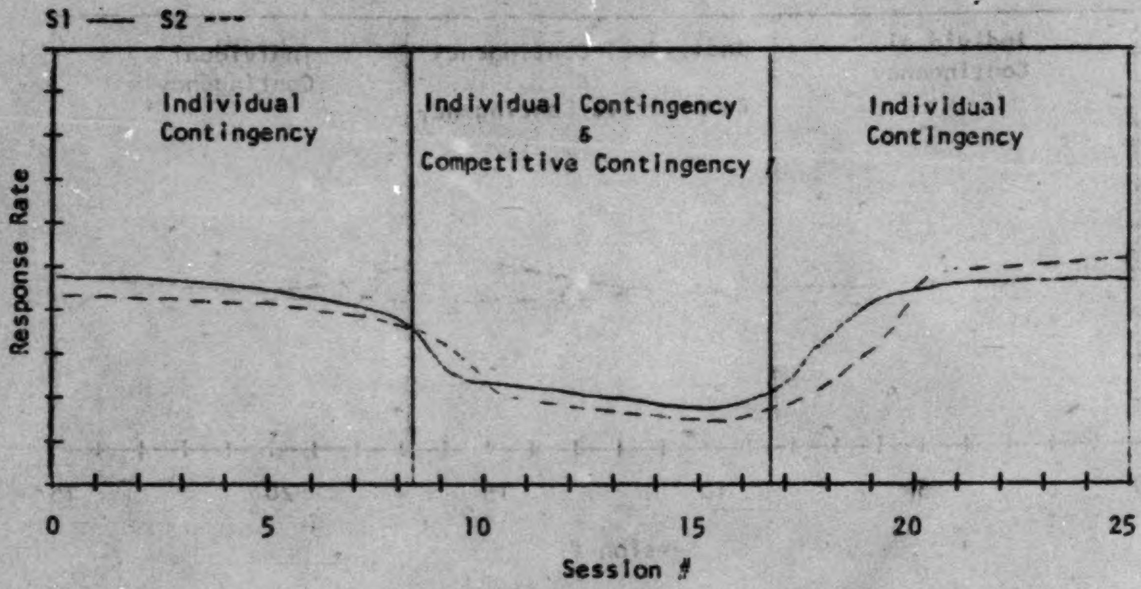
Step 10a: Evaluate the results by noting if the rates remain unchanged as conditions change from individual to individual plus competitive, and then back to the individual contingency alone. When this occurs, one may conclude that the students' performance was not affected by the contingency. Remediation is needed as the resulting data would look like this:

FIGURE 9



Step 10b: Evaluate the results by noting if the rates decrease as conditions change from individual to individual plus competitive and then back to the individual contingency alone. When this occurs, one may conclude that the students did not perform as well during the competitive contingency as during the individual contingency alone. Remediation is needed as the resulting data would look like this:

FIGURE 10



4b. To develop these students' social skills so that they perform during the competitive contingency as well as they do during the individual contingency.

5b. To develop these students' social skills so that they perform at higher rates during competitive contingencies than during individual contingencies.

Remediation Procedures

Step 1: Employ an individual contingency to motivate performance on a selected task, i.e., provide a reinforcer immediately after each correct response or each X number of correct responses.

Step 2: Continue with the individual contingency while observing and recording the student's rate of performance: the number of problems correctly answered per minute.

Step 3: Once the rates have stabilized introduce another student to sit across from the first and work similar task materials under the same individual contingency.

Step 4: Observe and record both students' response rates until they stabilize with neither rate increasing or decreasing.

Step 5: Record the time that each student takes to finish the task, and 1) if one student finishes before the other, reduce the number of problems for the slower student, 2) continue to record the time to completion, and 3) repeat Steps 1 and 2 until both students finish at the same time.

Step 6: Institute a competitive contingency by instructing the students that the one to finish his assignment first will receive an extra reinforcer, i.e., a bonus.

Step 7: Provide continuous feedback on who is ahead of whom during the assignment, i.e., verbal feedback such as "Tom just finished Row 1, Jerry just finished Row 2," etc.

Step 8: Observe the response rates during this condition. If they increase then gradually lean the schedule of verbal feedback, presenting it less frequently until finally no feedback is provided at all.

Step 9: If the response rates do not increase, shorten the assignment so that the consequence for finishing first is more immediate, i.e., instead of 10 rows for a race and reinforcement for the winner, require only two rows for a reinforcement occasion.

Step 10: While observing and recording the response rates during this condition, gradually increase the length of the assignments and repeat Steps 7 and 8.

6a. Some students do not respond appropriately during intragroup cooperative and intergroup competitive contingencies as their rates remained unchanged as compared with rates during the individual contingency.

Assessment Procedures

Step 1: Introduce selected independent task assignments for four students sitting in adjacent desks.

Step 2: Introduce an individual contingency by providing immediate reinforcement for each student after X problems have been completed successfully.

Step 3: Over a 7-10 session observation period when this contingency is in effect, observe and record each student's rate of working the assigned problems. Plot the results on graph paper.

Step 4: Introduce the intergroup competitive contingency by instructing the students that they will be working as two groups of two and that the first group to finish the assignment correctly will receive a bonus. Then provide additional reinforcement for the group of students finishing first.

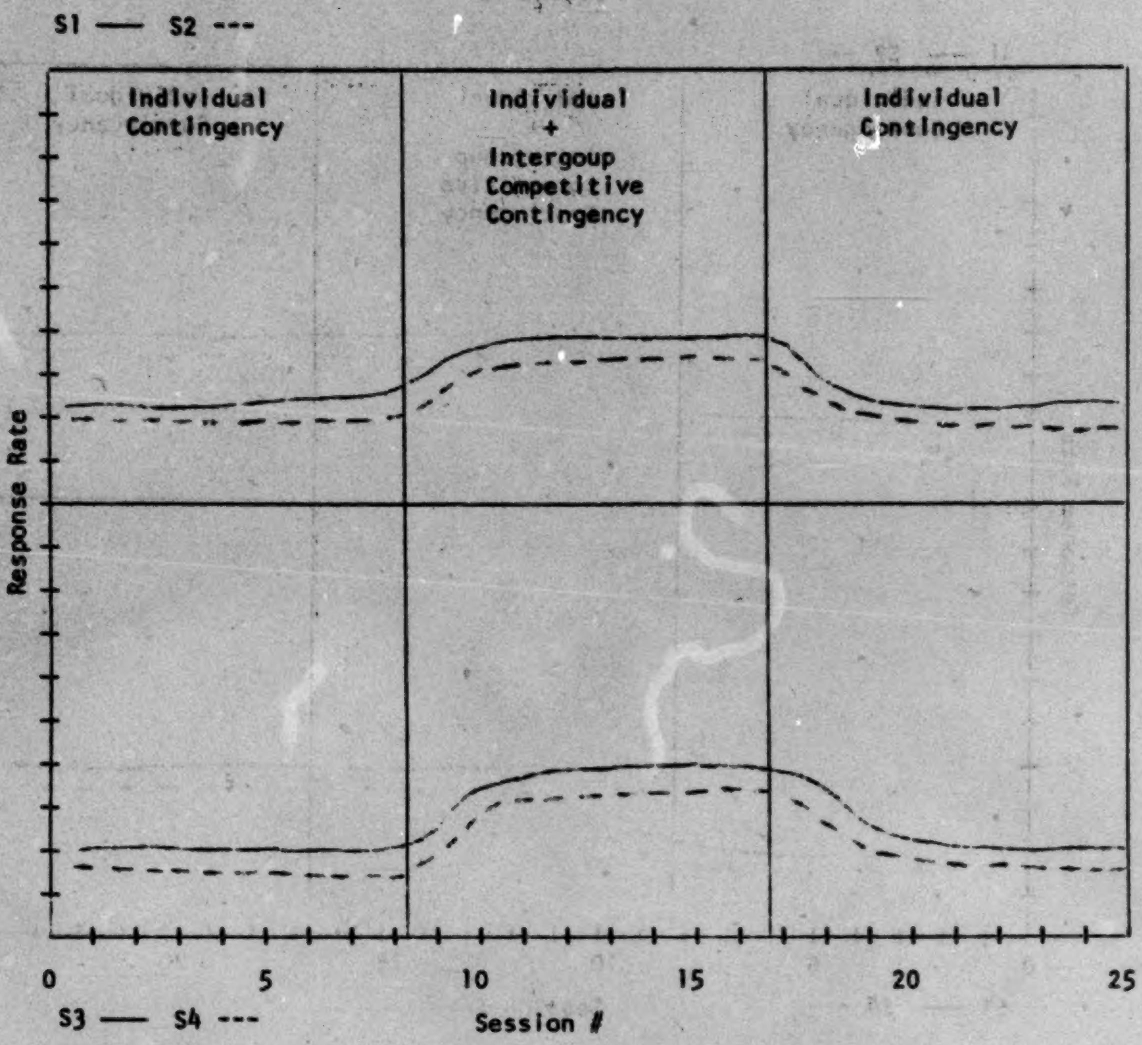
Step 5: Continue to observe and record each student's performance rates for the second period of 7-10 sessions and until the rates have stabilized (neither increasing nor decreasing). Plot these results on graph paper.

Step 6: Discontinue the competitive contingency and continue with the individual contingency.

Step 7: Continue to observe and record each student's performance rates for a third period of 7-10 sessions and until the rates have stabilized.

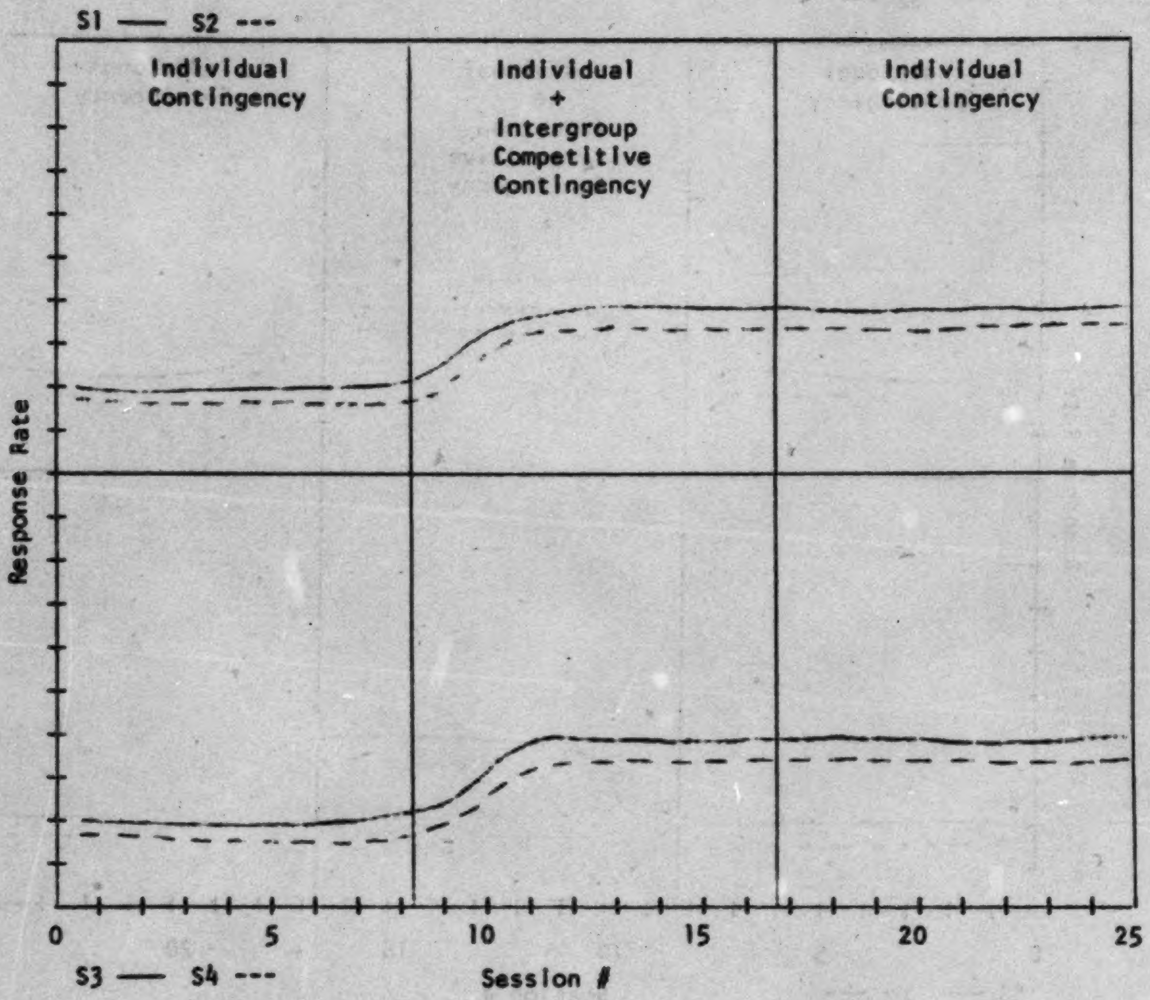
Step 8: Evaluate the results by noting if the rates increase as conditions change from individual to individual and intergroup competitive, and then decrease as conditions change back to the individual contingency alone. When this occurs, one may conclude that the students worked better during the combined condition than during the individual contingency alone. No remediation is needed as the resulting data would look like this:

FIGURE 11



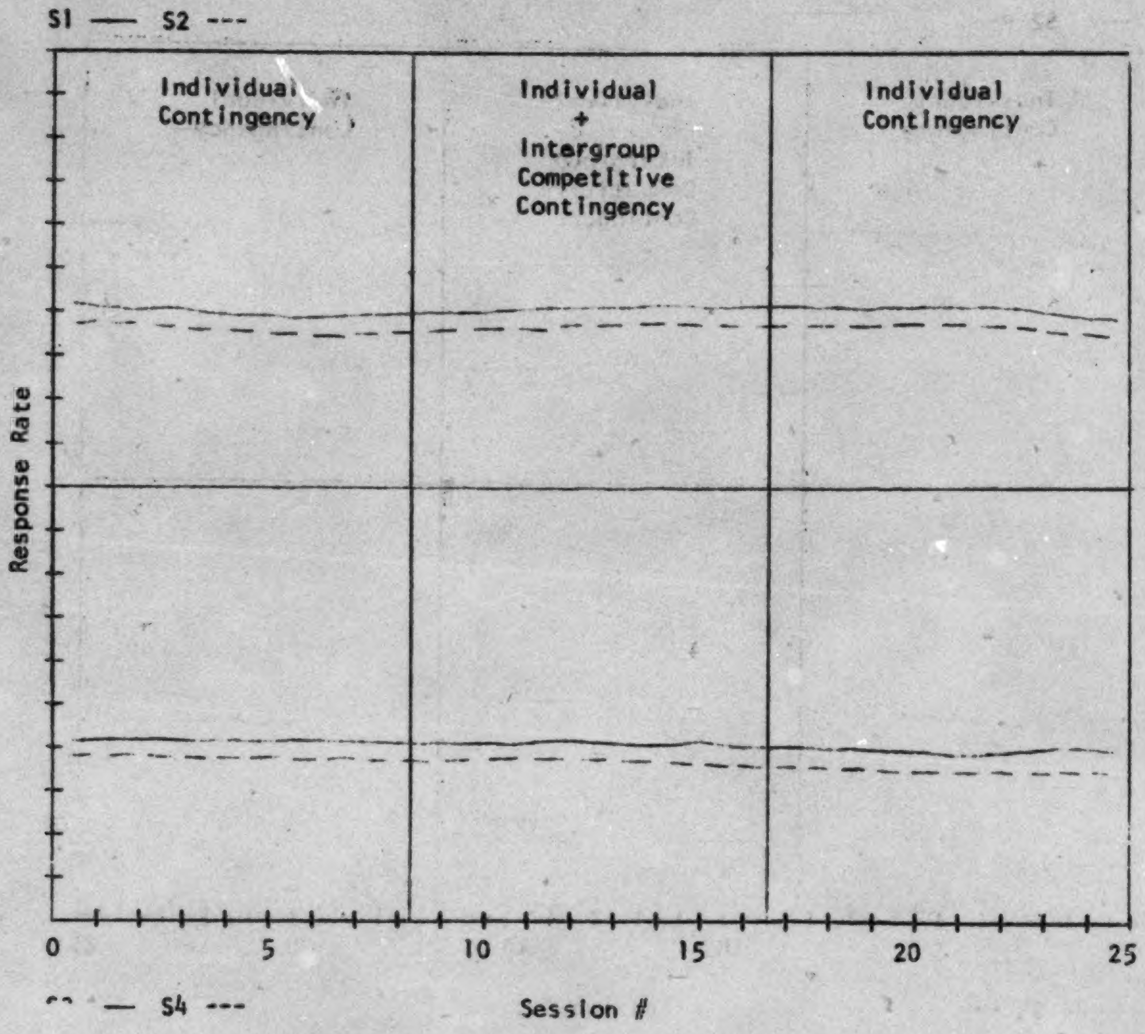
Step 9: Evaluate the results by noting if the rates increase as conditions change from individual to individual and intergroup competitive, and then remain high as conditions change back to the individual contingency alone. When this occurs, one may conclude that the students worked at least as well during the intergroup competitive contingency as in the individual contingency, and they may have been motivated by the competitive contingency to work harder and continued in that pattern even when the contingency was discontinued. No remediation is needed as the resulting data would look like this;

FIGURE 12



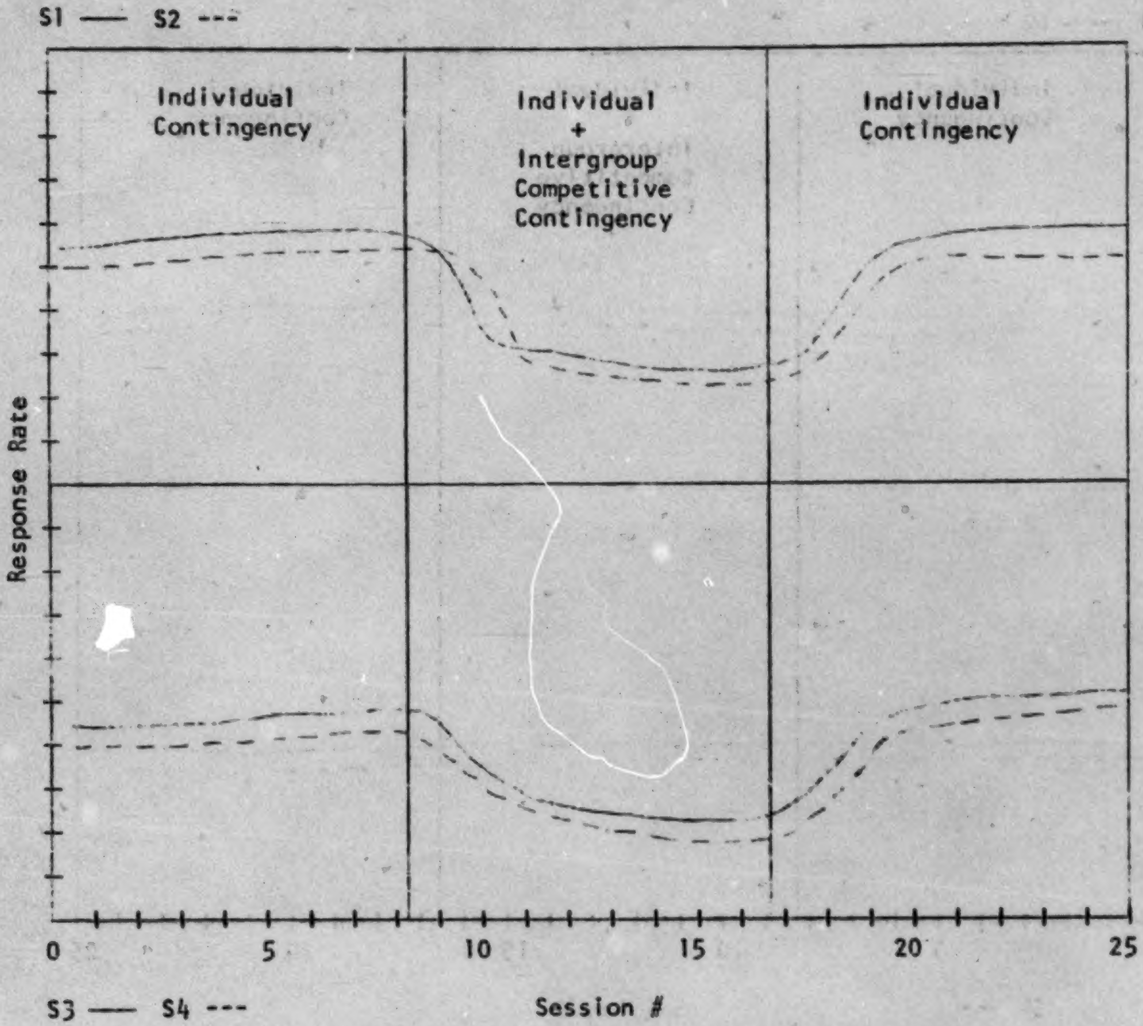
Step 10a: Evaluate the results by noting if the rates remain unchanged as conditions change from individual to individual plus intergroup competitive contingency, and then back to the individual contingency alone. When this occurs, one may conclude that the students' performance rates were not affected by the contingency. Remediation is needed as the resulting data would look like this:

FIGURE 13



Step 10b: Evaluate the results by noting if the rates decrease as conditions change from individual to individual plus intergroup competitive and then back to the individual contingency alone. When his occurs, one may conclude that the students did not perform as well during the competitive contingency as during the individual contingency alone. Remediation is needed as the resulting data would look like this:

FIGURE 14



6b: To develop students' social skills so they perform at higher rates during intragroup cooperative and intergroup competitive contingencies than during individual contingencies.

Remediation Procedures

Step 1: Repeat Steps 1-15 of 3b for two, two-person groups until members of both groups cooperate.

Step 2: Repeat Steps 1-10 of 4b and 5b for the same two, two-person groups until the group members compete.

Step 3: Bring the two groups together and provide either two interdependent tasks, one for each group, or four independent tasks, one for each group member.

Step 4: Introduce the intergroup competitive contingency by instructing the students that the first group to finish its interdependent task or independent tasks will receive an extra reinforcer.

Step 5: Observe and record the response rates of the two groups as they work on the tasks, and if one group finishes their task before the other, shorten the task assignment so that both groups finish at the same time.

Step 6: If the task rates do not increase during this condition when compared with the individual contingency, provide immediate and continuous feedback on which group is ahead during the race.

Step 7: If the task rates still do not increase, shorten the length of the assignment so that the consequences for finishing first are more immediate.

Step 8: Gradually lean the schedule of immediate feedback and increase the length of the assignment while continuing to observe and record the students' response rates. If the rates decrease or fail to increase reintroduce interperson competition by repeating Steps 2-8.

PART 3: A Program for Developing and Generalizing Social Process Skills

Social development may occur under a variety of conditions and social settings. This makes if difficult to devise a common set of procedures and conditions that will develop the students' social skills for each of the social processes. The instrumentation systems described in basic and developmental research phases of this project systematically employed one procedure to produce and control social patterns. By focusing on the reward point as the object of competition, exchange, or cooperation, social patterns were produced and controlled simply by manipulating procedures for earning and distributing points. During competition, for example, the student earning the most reward points earned a bonus point or points, during exchange students earned points by giving to each other, and during cooperation they earned points by coordinating their responses or choices to earn reward points together.

A similar procedure demonstrated in developmental research was employed to promote social interactions while students worked on academic tasks. Here students earned points from problems correctly solved and then decided how to distribute their earnings. They chose to 1) keep their points, 2) give points to their Partner, expecting Partner to reciprocate by giving points in return, or 3) give points to both Partner and Self. The merits of this system are its flexibility and independence of academic task requirements. Students can work on similar or different materials to earn and distribute their points in one social manner or another. A deficit of the system is the instrumentation employed to present students with clearly specified social distribution modes. Few, in any, classrooms can afford the instrumentation system and the maintenance required to keep it functioning.

This program describes a simple and inexpensive apparatus that can be employed in tutorial sessions to develop competitive, exchange, and cooperative behaviors in student pairs as they work on a variety of class assignments. The program also describes a set of procedures for generalizing social processes to classroom situations once the development of these interaction patterns is independent of the type of task assigned.

The requirements for implementing the program are 1) that the teacher employ a token economy or point system that motivates task performance, and 2) that the students have social process skills which require further development on a variety of academic tasks.

A. Social Behavior Abacus

Several problems are associated with procedures that employ point distribution methods to develop social patterns. Students may be unable to distinguish one alternative from another. Also those students with limited numberical skills may be unable to distinguish between the point totals of different modes, i.e., that the point total of one response mode is more or less than the total of another mode.

Those problems were addressed and resolved in the developmental research phase by 1) employing a jack selection devise that forced students to choose between visibly distinguishable response modes, and 2) recording point totals on columnar lights that advanced sequentially when a point was added to the chosen mode, enabling the student to compare by observing the light positions on each of the light columns. The illuminated light highest in the column identified the highest point total.

The social behavior abacus illustrated in the figure below incorporates both functions by employing 1) a system of bead transfers along a vertically looped wire that represents a point distribution mode, and 2) a system of accumulating beads in comparable bead columns that represent point totals resulting from different bead transfers.

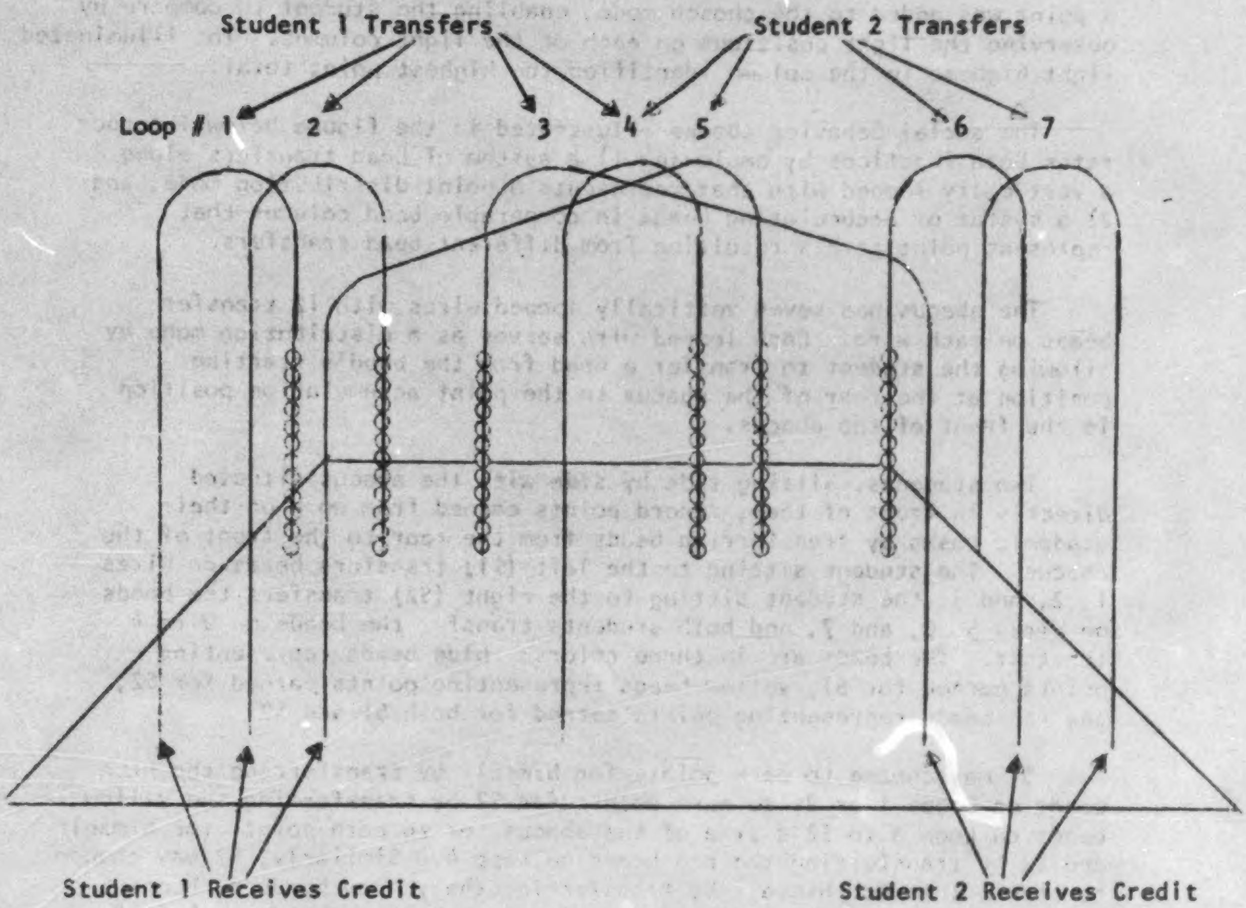
The abacus has seven vertically looped wires with 12 transfer beads on each wire. Each looped wire serves as a distribution mode by allowing the student to transfer a bead from the bead's starting position at the rear of the abacus to the point accumulation position in the front of the abacus.

Two students, sitting side by side with the abacus situated directly in front of them, record points earned from work on their academic tasks by transferring beads from the rear to the front of the abacus. The student sitting to the left (S1) transfers beads on Wires 1, 2, and 3, the student sitting to the right (S2) transfers the beads on Wires 5, 6, and 7, and both students transfer the beads on Wire 4 together. The beads are in three colors: blue beads representing points earned for S1, yellow beads representing points earned for S2, and red beads representing points earned for both S1 and S2.

S1 may choose to earn points for himself by transferring the blue beads on Loops 1 or 2, to earn points for S2 by transferring the yellow beads on Loop 3 to S2's side of the abacus, or to earn points for himself and S2 by transferring the red beads on Loop 4. Similarly, S2 may choose to earn points for himself by transferring the yellow beads on Loops 6 and 7, to earn points for S1 by transferring the blue beads on Loop 5 to S1's side of the abacus, or to earn points for himself and S1 by transferring the red beads on Loop 4. S1 receives credit for all blue beads accumulated on the front side of the abacus, S2 receives credit for all yellow beads accumulated on the front side of the abacus, and both S1 and S2 receive credit for red beads accumulated on the front side of the abacus.

FIGURE 15

SOCIAL BEHAVIOR ABACUS



B. Procedures for Assessing Students' Social Preferences and Corresponding Performance Levels

Each bead on the social behavior abacus represents a point earned for X amount of work completed on an assigned task. The relationship between the number of points earned and the number of minutes purchased to engage in a free time activity is expressed as a point-to-free-time ratio. The ratio 1:1, for example, means that one point purchases one minute of free time, while the ratio 5:1 indicates that five points will purchase one minute of free time.

The point-to-free-time ratio is represented by white beads which are interspersed in a colored bead column to identify when a minute of free time has been earned. For example, a bead column with a white bead interspersed between each sequence of four colored beads represents a 5:1 ratio. Every point earned allows the student to transfer a colored bead to the front of the abacus. After earning five points, the fifth bead to transfer is white, indicating that the student has earned a minute of free time. Each bead column represents a point-to-reward ratio which enables the instructor to set ratios for each distribution mode. The following steps are designed to provide baseline data on a student's preferences and corresponding performance levels.

Step 1: Intersperse a white bead after each colored bead in each of the nine distribution modes, establishing a 2:1 ratio.

Step 2: Situate two students side by side with the social behavior abacus on their desks in front of them.

Step 3: Provide academic task materials with work-to-point ratios clearly identified, e.g., every 10 problems correctly answered earns one point.

Step 4: Instruct students that points earned will be recorded by transferring a bead from the back to the front of the abacus with the blue beads recording S1's points, yellow beads recording S2's points, and the red beads recording both S1 and S2's points. S1 may choose to transfer beads on Loops 1, 2, 3, or 4; and S2 may choose to transfer beads on Loops 4, 5, 6, or 7. Both students must jointly choose Loop 4 before beads on that loop can be transferred.

Step 5: Allow students to choose a distribution loop and transfer the appropriate number of beads after completing a problem sheet. Instruct the students that one minute of free time is earned with each white bead that is transferred on one of the distribution loops.

Step 6: Observe and record the students' performance rates and distribution choices during this baseline condition (for 7-10 sessions and until the choices and rates have stabilized).

Step 7: Intervene during a B Condition by instructing the students on the following:

(a) The first student to finish his assignment may choose from any of the distribution modes (Loops 1, 2, 3, or 4 for S1, and Loops 4, 5, 6, and 7 for S2) and may transfer the appropriate number of beads.

(b) The last student to finish his assignment may choose from distributions that were not chosen by the first student according to the following criteria:

(1) If S1 finished first and chose Loop 1, then S2 could choose Loops 4, 5, or 6, but not Loop 7.

(2) If S1 finished first and chose Loop 2, then S2 could choose Loops 4, 5, or 7, but not Loop 6.

(3) Similarly, if S2 chose Loop 7 S1 could choose Loops 2, 3, or 4, but not Loop 1.

(4) Similarly, if S2 chose Loop 6 S1 could choose Loops 1, 3, or 4, but not Loop 2.

Step 8: Observe and record the student distribution choices and their performance rates during this intervention condition for 7-10 sessions and until the rates and choices have stabilized.

Step 9: Discontinue the intervention procedure and reinstitute the baseline procedure (which does not provide consequences for finishing first).

Step 10: Observe and record the student distribution choices and their performance rates during this second baseline condition.

Step 11: Evaluate student performance and social choices by comparing the intervention results with baseline results.

Step 12: Identify the students' social choices and determine 1) if the selection rates were a function of the intervention condition, or 2) if the performance rates were a function of the intervention condition.

Social choices may be computed by calculating the percent of the distributions that were on Loops 3, 4, or 5 for each of the students. The table below, for example, indicates S1 and S2's choices for the three loops.

TABLE XXVII

Loop #	3	4	5
S1	10%	7%	
S2		7%	11%

S1 chose to give 10% of his points to S2, and S2 chose to give 11% of his points to S1. Both S1 and S2 chose jointly to earn points together by chosing distribution Loop 4 7% of the time.

Social choices and performance rates are a function of the intervention condition if they change, either increase or decrease, when the condition is introduced and then decrease or increase when the condition is discontinued. For example, in Figures 16 and 17 below, the percentage of choices for the exchange mode (Loops 3 and 5) and the cooperative mode (Loop 4) decreased as conditions changed from baseline to intervention and then increased as conditions changed back to baseline.

FIGURE 16

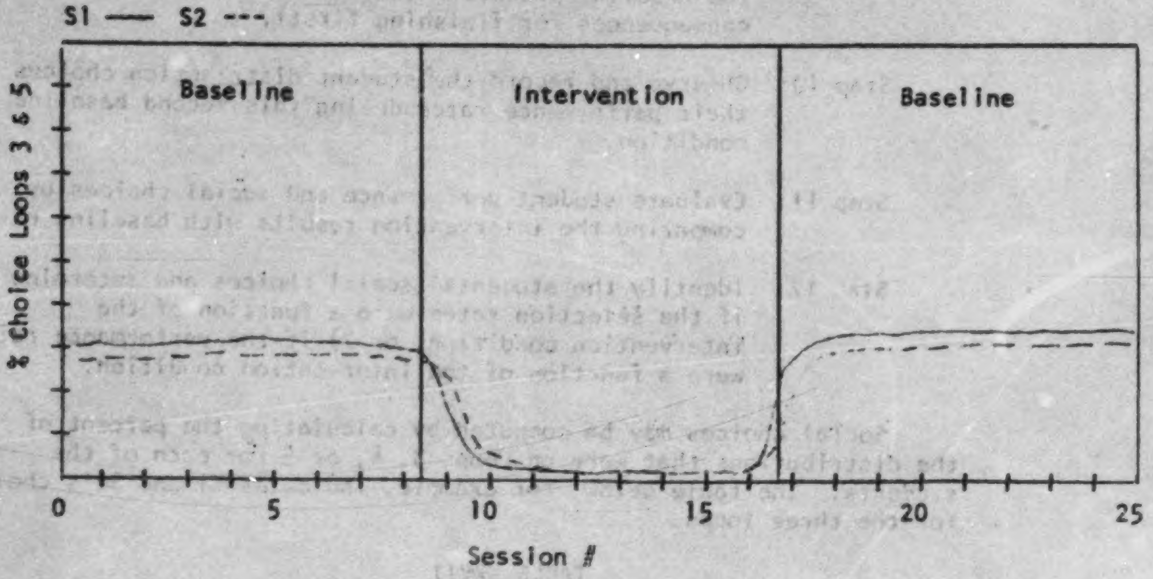
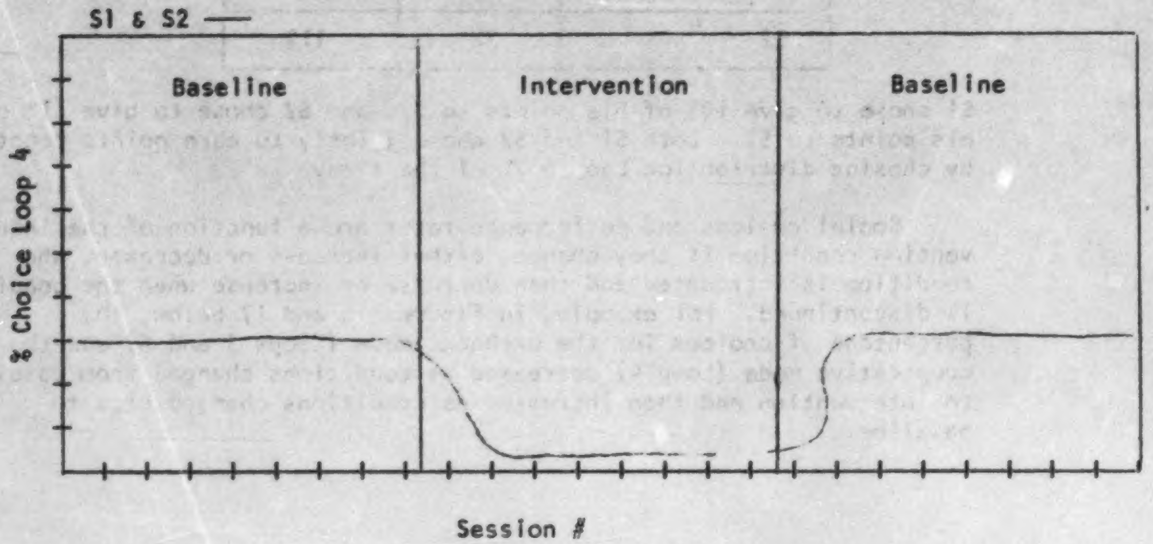
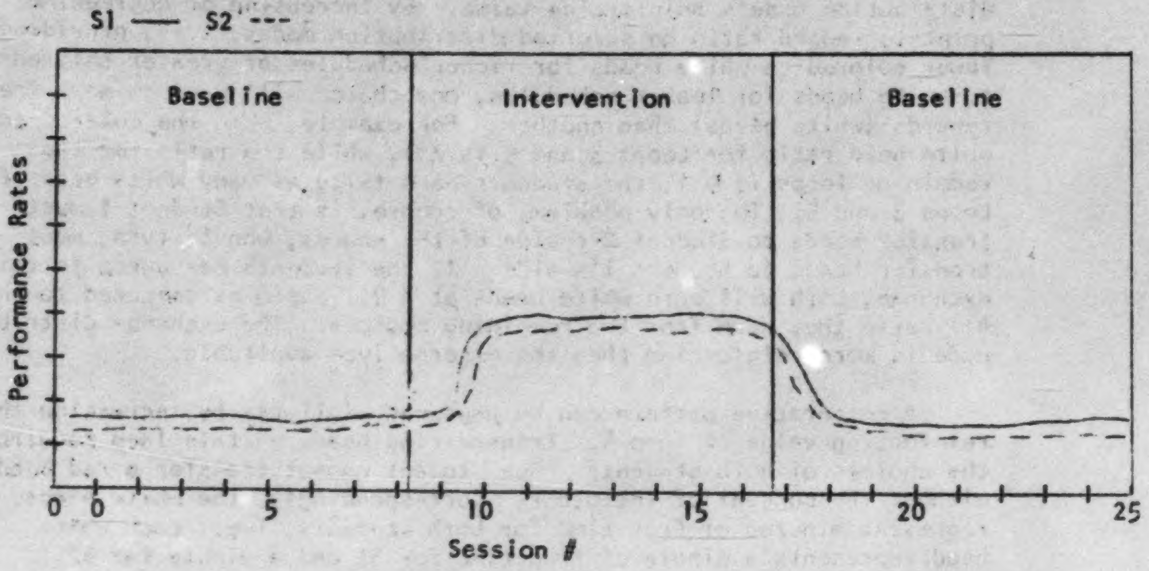


FIGURE 17



In Figure 18 below the students' performance rates increased and then decreased as conditions changed from baseline to intervention and back to baseline again.

FIGURE 18



Step 13: From these data one might conclude that social choices and academic performance were a function of the finish-first contingency.

Step 14: The choice data allow one to conclude about the relative reinforcing power of social versus nonsocial distribution choices. If the students did not choose the give to other or work together distribution modes, then one may conclude that working for Self was more reinforcing than working for Other or working with Other. If the students' social choices did not increase or decrease with the introduction of the finish-first contingency, then one may conclude that their choices were not affected by the competitive contingency.

Step 15: The performance data allow one to conclude about the relative reinforcing power of two contingencies: the individual contingency and the competitive or finish-first contingency.

C. Procedures for Developing Social Process Skills

After assessing students' social preferences and their corresponding academic response rates during the social behavior abacus baseline (Steps 1-15), the instructor can develop exchange, cooperative, or competitive patterns of interaction in the selected dyad by altering a distribution mode's reinforcing value. By increasing or decreasing the point-to-reward ratio on selected distribution modes, i.e., providing fewer colored-to-white beads for richer schedules or greater colored-to-white beads for leaner schedules, one choice will produce more frequent rewards (white beads) than another. For example, when the colored-to-white-bead ratio for Loops 3 and 5 is 2:1, while the ratio for the remaining loops is 4:1, the students earn twice as many white beads from Loops 3 and 5. The only problem, of course, is that Student 1 must transfer beads to Student 2's side of the abacus, who in turn, must transfer beads to Student 1's side. If the students can agree to this exchange, both will earn white beads at a 2:1 ratio as compared to the 4:1 ratio they earn from the remaining choices. The exchange distribution mode is more reinforcing then the alternatives available.

A cooperative pattern can be produced similarly by increasing the reinforcing value of Loop 4. Transferring beads on this loop requires the choices of both students. One student cannot transfer a red bead without the consent of the other. Correspondingly, the white beads represent minutes of free time for both students, i.e., each white bead represents a minute of free time for S1 and a minute for S2. When the instructor alters the mode's reinforcing power by either decreasing its ratio or increasing the ratio for the remaining modes, students earn more free time by jointly choosing to transfer red beads on Loop 4.

A competitive pattern is produced by increasing the ratio for Loops 1 and 2 for Student 1 and Loops 6 or 7 for Student 2. For example, when the instructor provides a 2:1 ratio for Loops 1 and 7 and a 4:1 ratio for the remaining loops, the first student to finish his response sheet (assignment) may choose between any of his alternatives. If S1, for example, finishes first, he may choose Loop 1 which has the richest ratio. This choice prevents S2 from choosing his richest choice, Loop 6. By finishing first, S1 works under a richer reward schedule than S2. Similarly, if S2 should finish first and choose Loop 6, S1 could not choose Loop 1. This procedure also applies to Loops 2 and 6 when they have a richer ratio than Loops 1 or 7.

The following steps describe procedures for developing exchange, cooperative, and competitive patterns by manipulating the reinforcing value of the distribution modes. The steps also describe methods for evaluating the effects of the manipulation on social preferences and academic performance.

1. Procedures for Developing Exchange Patterns

Step 1: Intersperse a white bead after every third colored bead in each of the seven distribution modes, establishing a 4:1 ratio.

Step 2: Repeat Steps 2-4 from the assessment sequence.

Step 5: Instruct the students on the following:

(a) The first student to finish his assignment may choose from any of the distribution modes (Loops 1, 2, 3, or 4 for S1, and Loops 4, 5, 6, or 7 for S2) and then transfer the appropriate number of beads.

(b) The last student to finish his assignment may choose from distribution modes not chosen by the first student according to the following criteria:

(1) If S1 finished first and chose Loop 1, then S2 could choose Loops 4, 5, or 6, but not Loop 7.

(2) If S1 finished first and chose Loop 2, then S2 could choose Loops 4, 5, or 7, but not Loop 6.

(3) Similarly, if S2 finished first and chose Loop 7, S1 could choose between Loops 2, 3, or 4, but not Loop 1.

(4) Similarly, if S2 finished first and chose Loop 6, S1 could choose Loops 1, 3, or 4, but not Loop 2.

Step 6: Observe and record the students' distribution choices and their performance rates during this baseline condition for 7-10 sessions and until the rates and choices have stabilized.

Step 7: If the students do not choose Loops 3 and 5, alter the ratios, making the colored-to-white ratio 2:1 rather than 4:1.

Step 8: Repeat Step 6.

Step 9: If the students do not choose Loops 3 and 5, then remove all white beads from the remaining distribution modes so that only Loops 3 and 5 contain white beads.

Step 10: Repeat Step 6.

Step 11: If the students do not choose Loops 3 and 5, remove beads from all other distribution modes, so that only Loops 3 and 5 have beads.

Step 12: Repeat Step 6.

Step 13: Once students have exchanged beads reintroduce colored beads for the remaining distribution modes.

Step 14: Repeat Step 6.

Step 15: If students continue to exchange in Step 14, reintroduce white beads for the remaining distribution modes at a 4:1 ratio.

Step 16: Repeat Step 6.

Step 17: If students discontinue their exchange repeat Steps 9-15. If they continue to exchange go to Step 18.

Step 18: Discontinue the procedure by reducing the ratio for Loops 3 and 5 to 4:1.

Step 19: Repeat Step 6.

Step 20: Evaluate the stability of the pattern by noting if students discontinued their exchange and returned to the pattern established in Step 6.

2. Procedures for Developing Cooperative Patterns

Steps 1-6: If students do not jointly choose Loop 4, alter the ratios, making the colored-to-white ratio for Loop 4 2:1 rather than 4:1.

Step 8: Repeat Step 6.

Step 9: If students do not choose Loop 4, then remove all white beads from the remaining distribution modes so that only Loop 4 contains white beads.

Step 10: Repeat Step 6.

Step 11: If the students do not choose Loop 4, remove beads from all other distribution loops so that only Loop 4 has beads.

Step 12: Repeat Step 6.

Step 13: Once students jointly choose to record their points by transferring beads on Loop 4, reintroduce the colored beads for the remaining distribution modes.

Step 14: Repeat Step 6.

Step 15: If students continue to cooperate in Step 14, reintroduce white beads for the remaining distribution modes at a 4:1 ratio.

Step 16: Repeat Step 6.

Step 17: If students discontinue their cooperative choices, repeat Steps 9-15. If they continue to cooperate go to Step 18.

Step 18: Discontinue the procedure by reducing the ratio for Loop 4 to 4:1.

Step 19: Repeat Step 6.

Step 20: Evaluate the stability of the pattern by noting if students discontinue their cooperative responses and return to the pattern established in Step 6.

3. Procedures for Developing Competitive Patterns

Steps 1-6: Same as for the exchange and cooperation sequence.

Step 7: Alter the ratios for either Loops 1 and 7 or 2 and 6 by making the colored-to-white ratios 2:1 rather than 4:1.

Step 8: Repeat Step 6.

Step 9: If the students do not choose Loops 1 and 7 (or Loops 2 and 6 as the case may be), then remove all white beads from the remaining distribution modes so that only Loops 1 and 7 (or 2 and 6) contain white beads.

Step 10: Repeat Step 6.

Step 11: If students do not choose Loops 1 and 7 (or 2 and 6), remove beads from all distribution modes, so that only Loops 1 and 7 (or 2 and 6) have beads.

Step 12: Repeat Step 6.

Step 13: Once students choose Loops 1 and 7 (or 2 and 6) reintroduce the colored beads for the remaining distribution modes.

Step 14: Repeat Step 6.

Step 15: If students continue to choose Loops 1 and 7 (or 2 and 6) reintroduce white beads for the remaining distribution modes at the 4:1 ratio.

Step 16: Repeat Step 6.

Step 17: If students discontinue their 1-7 (or 2-6) selections, repeat Steps 9-15. If they continue that selection observe their performance rates and note any increases from the rates established in Steps 1-6.

Step 18: If student rates in Step 17 are higher than in Step 6, discontinue Step 7 procedures by equalizing ratios for all distribution modes at the 4:1 ratio.

Step 19: Repeat Step 6 and note any corresponding decrease in rates. Then repeat Steps 7 and 8 to reinstate the higher performance level.

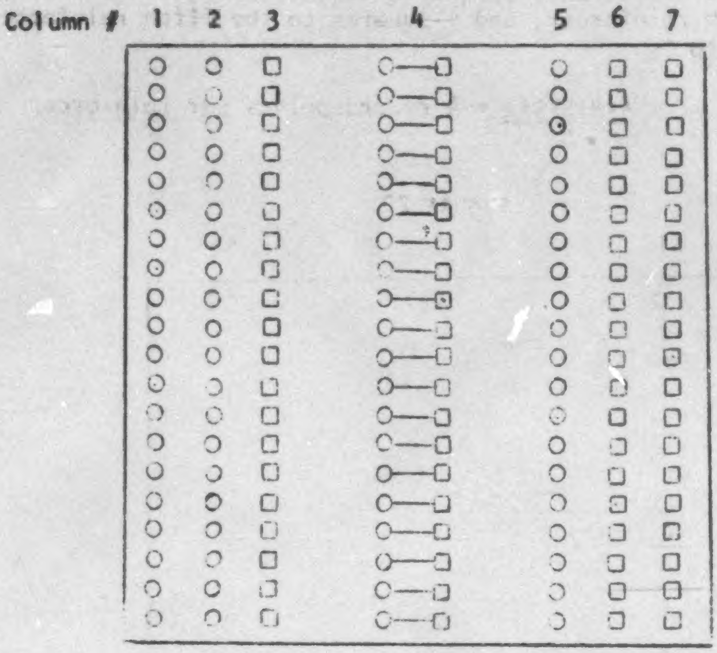
Step 20: If task performance does not increase refer to Program II of this manual for procedures on establishing competitive patterns.

D. Procedures for Generalizing Social Process Skills

Once students respond appropriately to the social behavior abacus by interacting to distribute points earned from their work on an academic task, the instructor presents different tasks to demonstrate that social process development is independent of the type of academic task assigned. Once this 'task generalization' is achieved, a program to generalize social process development to different instructional settings may be instituted.

Social process generalization is facilitated by developing an abacus that is flexible enough to fit classroom needs. This may require, for example, changing its physical structure to a single reward sheet for distributing and recording reward points. The figure below illustrates a reward sheet with the same point distribution modes as provided by the abacus:

FIGURE 19

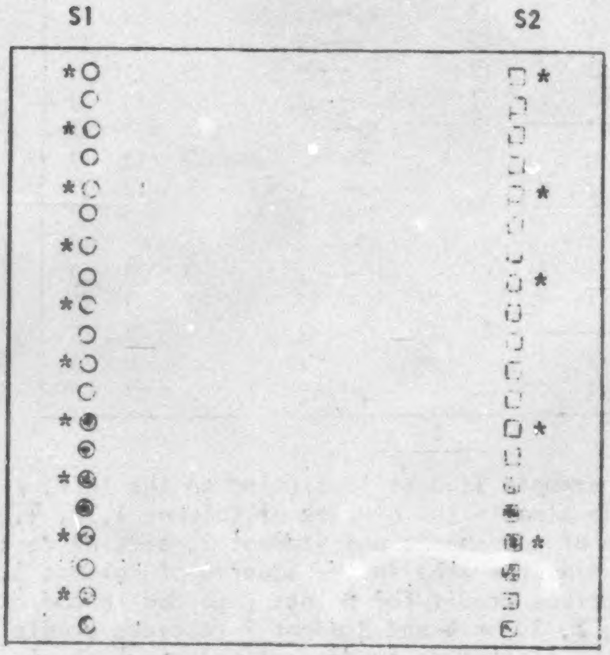


In this example Student 1, sitting to the left, records points by shading the area in the circles of Columns 1, 2, 4, or 5 beginning at the bottom of the sheet; and Student 2, sitting to the right, records points by shading the area in the squares of Columns 3, 4, 6, or 7. Student 1 receives credit for points recorded in the circles or squares of Columns 1, 2, 3, or 4 and Student 2 receives credit for points recorded in the circles or squares of Columns 4, 5, 6, or 7. This cumulative method of recording points permits easy comparisons between point totals of different distribution modes. By noting the height of a shaded column one can quickly identify which mode has the greatest point total.

Reward points are backed by known reinforcers such as money or minutes of free time: X points return Y cents or Z minutes of free time. The reinforcers, represented by stars, are positioned beside the circles and squares. When the circle or square beside a star is shaded, the student receives the corresponding reinforcer. Fixed ratios of reward points to reinforcers may be calculated by counting the number of circles or squares that must be shaded before a reinforcer is available. In the example below, S1 must shade two squares to reach a star. This ratio is consistent or fixed for the entire column of circles. The fixed ratio, therefore, is 2 reward points per 1 star. A variable ratio of reward points to reinforcers may be calculated by taking the average number of circles or squares that must be shaded before a reinforcer is available. For example Student 2 must shade in 4 squares to the first reinforcer, 4 squares to the second reinforcer, 5 squares to the third reinforcer, 3 squares to the fourth reinforcer, and 4 squares to the fifth reinforcer. The variable ratio is:

$$\frac{4+4+5+3+4}{5} = 4 \text{ reward points per reinforcer}$$

FIGURE 20



This method of recording reward points and presenting reinforcers allows the students to see and compare each other's point-to-reinforcer ratio schedule.

The procedures for developing social process interactions follow the outline described for the social behavior abacus in the preceding section. Here the instructor controls social processes by altering the circle-or-square-to-star ratio. The following procedures for developing each of the social processes illustrate these variations:

1. Procedures for Developing Exchange Patterns

Step 1: Intersperse stars beside each fourth circle or square in each of the seven distribution columns, establishing a 4:1 ratio.

Step 2: Situate two students side by side with the social process reward sheet on the desk between them.

Step 3: Provide academic task materials with work-to-point ratios clearly identified, e.g., each 10 problems correctly answered earns one point.

Step 4: Instruct students that points earned will be recorded by shading the area in either a circle (for Student 1) or a square (for Student 2). S1 may choose the circles of Columns 1, 2, 4, or 5, and S2 may choose between the squares of Columns 3, 4, 6, or 7. Both students must have shaded the joined circles and squares of Column 4 before they can receive the corresponding reinforcer (star).

Step 5: Instruct the students on the following:

(a) The first student to finish his assignment may choose from any of the distribution modes (Columns 1, 2, 4, or 5 for S1, and Columns 3, 4, 6, or 7 for S2) and shade the appropriate number of circles or squares to record points earned.

(b) The last student to finish his assignment may choose from distribution modes not chosen by the first student according to the following criteria:

(1) If S1 finished first and chose Column 1, then S2 could choose Columns 3, 4, or 6, but not Column 7.

(2) If S1 finished first and chose Column 2, then S2 could choose Columns 3, 4, or 7, but not Column 6.

(3) Similarly, if S2 finished first and chose Column 7, S1 could choose between Columns 2, 4, and 5, but not Column 1.

(4) Similarly, if S2 finished first and chose Column 6, S1 could choose between Columns 1, 4, and 5, but not Column 2.

Step 6: Observe and record the students' distribution choices and their performance rates during this baseline condition for 7-10 sessions and until the rates and choices have stabilized.

Step 7: If the students do not choose Columns 3 and 5, change the circle-and-square-to-star ratio to 2:1.

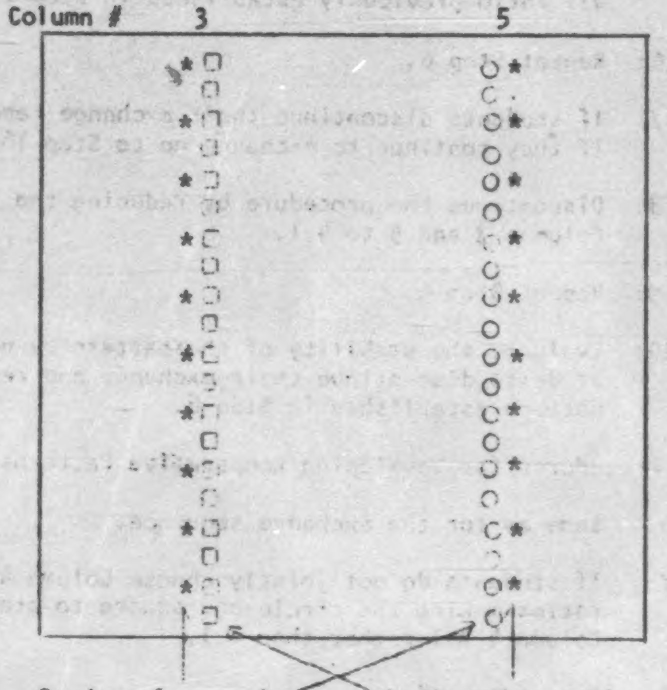
Step 8: Repeat Step 6.

Step 9: If the students do not choose Columns 3 and 5, remove all stars from the remaining distribution columns so that only Columns 3 and 5 contain stars.

Step 10: Repeat Step 6.

Step 11: If the students do not choose Columns 3 or 5, substitute the following reward sheet which presents only the Column 3 and 5 alternatives. (See figure below)

FIGURE 21



Recording:	Student 1 records in the circles	Student 2 records in the squares
Reinforcement Contingency:	Student 1 receives reinforcers from stars next to the squares	Student 2 receives reinforcers from stars next to the circles.

Step 12: Repeat Step 6.

Step 13: Once students have exchanged, with Student 1 recording points by shading in circles on Student 2's side of the sheet and Student 2 recording points by shading in squares on Student 1's side of the sheet, reintroduce the first reward sheet (which has no stars for the remaining distribution columns.

Step 14: Repeat Step 6.

Step 15: If students continue to exchange in Step 14, reintroduce the stars for the remaining distribution columns at the 4:1 ratio previously established in Step 1.

Step 16: Repeat Step 6.

Step 17: If students discontinue their exchange repeat Steps 9-15. If they continue to exchange go to Step 18.

Step 18: Discontinue the procedure by reducing the ratio for Columns 3 and 5 to 4:1.

Step 19: Repeat Step 6.

Step 20: Evaluate the stability of the pattern by noting if students discontinue their exchange and return to the pattern established in Step 6.

2. Procedures for Developing Cooperative Patterns

Steps 1-6: Same as for the exchange sequence.

Step 7: If students do not jointly choose Column 4, alter the ratios making the circle-and-square to-star ratio for Column 4 2:1 rather than 4:1.

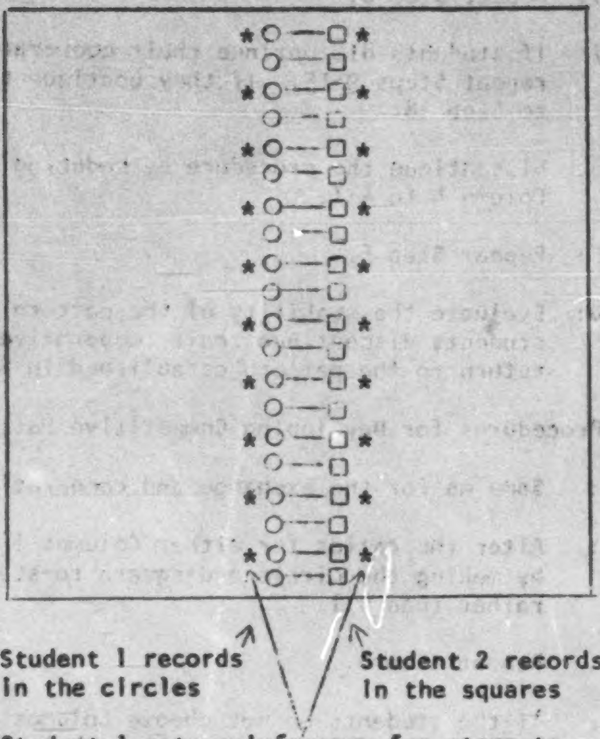
Step 8: Repeat Step 6.

Step 9: If students do not choose Column 4, then remove all stars from the remaining distribution columns so that only Column 4 contains stars.

Step 10: Repeat Step 6.

Step 11: If the students do not choose Column 4, replace the reward sheet with the one below which provides only the Column 4 alternative:

FIGURE 22



Recording: Student 1 records in the circles; Student 2 records in the squares

Reinforcement Contingency: Student 1 gets reinforcers for stars to the left and Student 2 for stars to the right when both circles and squares at that level are shaded, i.e., reward points are recorded.

Step 12: Repeat Step 6.

Step 13: Once students jointly choose to record their points with Student 1 shading in the circles and Student 2 shading in the squares, reintroduce the first sheet (which has no stars for the remaining columns).

Step 14: Repeat Step 6.

Step 15: If students continue to cooperate in Step 14, reintroduce stars for the remaining distribution columns at the 4:1 ratio established in Step 2.

Step 16: Repeat Step 6.

Step 17: If students discontinue their cooperative choices, repeat Steps 9-15. If they continue to cooperate go to Step 18.

Step 18: Discontinue the procedure by reducing the ratio for Column 4 to 4:1.

Step 19: Repeat Step 6.

Step 20: Evaluate the stability of the pattern by noting if students discontinue their cooperative responses and return to the pattern established in Step 6.

3. Procedures for Developing Competitive Patterns

Steps 1-6: Same as for the exchange and cooperation sequence.

Step 7: Alter the ratios for either Columns 1 and 7 or 2 and 6 by making the circle-and-square-to-star ratio 2:1 rather than 4:1.

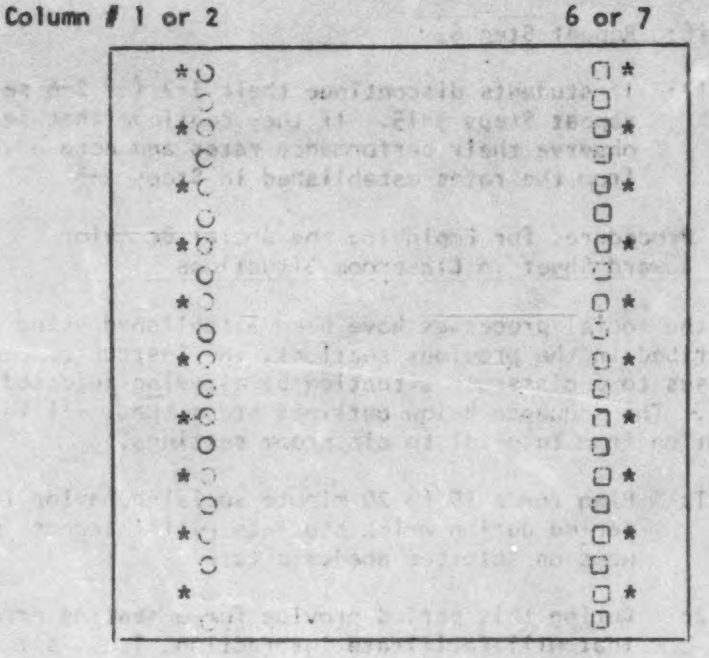
Step 8: Repeat Step 6.

Step 9: If the students do not choose Columns 1 and 7 (or Columns 2 and 6 as the case may be), then remove all stars from the remaining distribution columns so that only Loops 1 and 7 (or 2 and 6) contain stars.

Step 10: Repeat Step 6.

Step 11: If students do not choose Loops 1 and 7 (or 2 and 6) replace the reward sheet with the one below, so that students only have the 1 and 7 (or 2 and 6) alternatives:

FIGURE 23



Recording:	Student 1 records in the circles	Student 2 records in the squares
Reinforcement Contingency:	Student 1 receives reinforcers from the stars next to the circles.	Student 2 receives reinforcers from the stars next to the squares.

Step 12: Repeat Step 6.

Step 13: Once students choose Loops 1 and 7 (or 2 and 6) reintroduce the first reward sheet (which has no stars for the remaining distribution columns).

Step 14: Repeat Step 6.

Step 15: If students continue to choose Columns 1 and 7 (or 2 and 6) reintroduce stars for the remaining distribution columns at the 4:1 ratio established in Step 1.

Step 16: Repeat Step 6.

Step 17: If students discontinue their 1-7 (or 2-6 selections) repeat Steps 9-15. If they continue that selection observe their performance rates and note any increases from the rates established in Steps 1-6.

4. Procedures for Employing the Social Behavior Reward Sheet in Classroom Situations

Once the social processes have been established using the reward sheet described in the previous sections, the instructor can generalize the processes to a classroom situation by altering selected classroom procedures. The sequence below outlines steps that will facilitate generalization from tutorial to classroom settings.

Step 1: Plan for a 15 to 20 minute social behavior instructional period during which students will interact in prescribed ways on selected academic tasks.

Step 2: During this period provide for a seating arrangement that will facilitate interaction, i.e., situate the students side by side in adjacent desks with the reward sheet situated between their desks and in front of them.

Step 3: Identify a social process and academic task appropriate for the student pair.

Step 4: Refer to the appropriate procedures listed in Sections 1-3 and administer the program.

Step 5: Provide schedules of feedback (for correct responses on academic tasks) similar to those employed in the tutorial sessions.

Step 6: Allow students to record their points at intervals similar to those employed in the tutorial sessions.

Step 7: Gradually lean the feedback schedule to accommodate instructional procedures of the classroom.

Step 8: Take frequent measures of student choices and performance rates to evaluate student responses in the classroom situation.

Step 9: If contingency control decreases during this period return to the tutorial sessions and repeat the appropriate procedures.

Step 10: Once students are responding appropriately return them to their original seating positions and continue the program by taking the reward sheet to the students and allowing them to record their reward points. Continue to evaluate and return to Step 6 when contingency control decreases.

APPENDIX B

A Word Identification Program

By

Synneva Reed

The word identification program described in this appendix is designed to develop skills in phonetic sounding, spelling, and identifying three letter words. The sequence was adapted from the spelling program prepared by Behavioral Research Laboratories (Spelling, Book 1, A Sullivan Associates Program, 1967). The program components include manipulable, plastic letters with magnetized backs, a series of colored slides, and tape recorded instructions. The slide presentations are used either to introduce new words or to provide feedback for words spelled by the student. A sequence of recorded instructions that correspond to each slide presentation provides the instructional cues for student responses. Following a slide and instructional cue, the student responds by arranging his plastic letters appropriately on his letter board, (a 12X24" flat metal surface) and/or responds verbally by sounding, spelling, or identifying the word. An answer slide and recording follow the student's responses to provide him with immediate visual and aural feedback on the appropriateness of his response. This format allows students to spell by manipulating the plastic letters and to sound words phonetically by imitating the recorded instruction.

The program description that follows lists the slide contents in the left column and the corresponding recorded instructions to the right. Phrases with the words 'picture, board, and blank' are used repeatedly to describe the slide sequence. 'Picture' followed by a letter, word, or word sequence indicated that the slide is of a letter, word, or word sequence. 'Board' followed by letters, words, or word sequences similarly indicates that the slide is of the student's letter board with those program components positioned in its center. 'Blank' indicates that no slide was presented to accompany the corresponding instruction.

The program begins with an introduction that presents the beginning letters for the first lessons. The entire sequence includes 31 lessons with 30 instructional steps per lesson. By the end of the program the student is reading a maximum of five-word sentences including one, two, and three letter words.

INTRODUCTION

Slide		
	1.	You have just learned the names of the letters of the alphabet. Every letter of the alphabet has a name and a sound.
A Board	2.	What is the name of this letter?-- Right if you said A. The sound of the letter A is (ae). Can you make the sound for the letter A?-- Good if you said (ae). The sound of the letter A is (ae).
A Board	3.	What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae). What is the sound of the letter A?-- Good if you said (ae).
N Board	4.	What is the name of this letter?-- Right if you said N. Every letter of the alphabet has a name and a sound. The sound of the letter N is (n). Can you make the sound for the letter N?-- Good if you said (n). The sound of the letter N is (n).
N Board	5.	What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n). What is the sound of the letter N?-- Good if you said (n).
A Board	6.	What is the name of this letter?-- Right if you said A. The sound of the letter A is (ae). Can you make the sound for the letter A?-- Good if you said (ae). The sound of the letter A is (ae).
N Board	7.	What is the name of this letter?-- Right if you said N. The sound of the letter N is (n). Can you make the sound of the letter N?-- Good if you said (n). The sound of the letter N is (n).
A Board	8.	What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae). What is the sound of the letter A?-- Good if you said (ae).
N Board	9.	What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n). What is the sound of the letter N?-- Good if you said (n).
A Board	10.	What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae).

Slide		
N Board	11.	What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n).
M Board	12.	What is the name of this letter?-- Right if you said M. Every letter of the alphabet has a name and a sound. The sound of the M is (m). Can you make the sound for the letter M?-- Good if you said (m). The sound of the letter M is (m).
M Board	13.	What is the name of this letter?-- Right if you said M. The sound of the letter M is (m). Can you make the sound for the letter M?-- Good if you said (m). The sound of the M is (m).
M Board	14.	What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m). What is the sound of the letter M?-- Good if you said (m).
A Board	15.	What is the name of this letter?-- Right if you said A. The sound of the letter A is (ae). Can you make the sound for the letter A?-- Good if you said (ae). The sound of the letter A is (ae).
M Board	16.	What is the name of this letter?-- Right if you said M. The sound of the letter M is (m). Can you make the sound for the letter M?-- Good if you said (m). The sound of the letter M is (m).
N Board	17.	What is the name of this letter?-- Right if you said N. The sound of the letter N is (n). Can you make the sound for the letter N?-- Good if you said (n). The sound of the letter N is (n).
M Board	18.	What is the name of this letter?-- Right if you said M. The sound of the letter M is (m). Can you make the sound for the letter M?-- Good if you said (m). The sound of the letter M is (m).
A Board	19.	What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae). What is the sound of the letter A?-- Good if you said (ae).
M Board	20.	What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m). What is the sound of the letter M?-- Good if you said (m).

Slide

N Board 21. What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n). What is the sound of the letter N?-- Good if you said (n).

M Board 23. What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m). What is the sound of the letter M?-- Good if you said (m).

A Board 24. What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae).

M Board 25. What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m).

N Board 26. What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n).

M Board 27. What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m).

A Board 28. What is the sound for the letter A?-- Right if you said (ae).

N Board 29. What is the sound for the letter N?-- Right if you said (n).

M Board 30. What is the sound for the letter M?-- Right if you said (m).

LESSON I

M Board 1. What is the name of this letter?-- Right if you said M. The sound of the letter M is (m). Can you make the sound for the letter M?-- Good if you said (m). The sound for the letter M is (m).

A Board 2. What is the name of this letter?-- Right if you said A. The sound of the letter A is (ae). Can you make the sound for the letter A?-- Good if you said (ae). The sound for the letter A is (ae).

N Board 3. What is the name of this letter?-- Right if you said N. The sound of the letter N is (n). Can you make the sound for the letter N?-- Good if you said (n). The sound for the letter N is (n).

Slide		
M Board	4.	What is the sound of this letter?-- Good if you said (m). The sound of the letter M is (m). What is the sound of the letter M?-- Good if you said (m).
A Board	5.	What is the sound of this letter?-- Good if you said (ae). The sound of the letter A is (ae). What is the sound of the letter A?-- Good if you said (ae).
N Board	6.	What is the sound of this letter?-- Good if you said (n). The sound of the letter N is (n). What is the sound of the letter N?-- Good if you said (n).
Picture Man	7.	This is a man. Your father is a man. A boy will grow to be a man. We can spell the word man. Find the letter M. Put the letter M on your letter board.-- Have you put the letter M on your letter board?
Picture Man M Board	8.	If so, good. What is the sound of the letter M?-- Good if you said (m). Find the letter A. Put the letter A on your letter board next to the M.-- Have you put the letter A on your letter board next to the M?
Picture Man MA Board	9.	If so, good. What is the sound of the letter A?-- Good if you said (ae). Find the letter N. Put the letter N on your letter board next to the A.-- Have you put the letter N on your letter board next to the A?
Picture Man MAN Board	10.	If so, good. What is the sound of the letter N?-- Good if you said (n). Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. The letters MAN spell the word man.
Picture Man MAN Board	11.	What word is this?-- Right if you said man. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. The letters MAN spell the word man. What word do the letters MAN spell?-- Right if you said man. Push the letters MAN to the side of your letter board.-- Have you pushed the letters MAN to the side of your letter board?

Slide		
Blank	12.	If so, good. The letters MAN spell the word man. We will spell the word man. Find the letter M. Put the letter M in the middle of your letter board.-- Have you put the letter M in the middle of your letter board?
Picture Man M Board	13.	If so, good. What is the sound of the letter M?-- Right if you said (m). Find the letter A. Put the letter A on your letter board next to the M.-- Have you put the letter A on your letter board next to the M?
Picture Man MAN Board	14.	If so, good. What is the sound of the letter A?-- Right if you said (ae). Find the letter N. Put the letter N on your letter board next to the A.-- Have you put the N on your letter board next to the A?
Picture Man MAN Board	15.	If so, good. What is the sound of the letter N?-- Right if you said (n). Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. The letters MAN spell the word man.
MAN Board	16.	What word is this?--Right if you said man. Point to your letters on your letter board and say their sounds.-- Right if you said (m), (ae), (n), man, man, man. The letters MAN spell the word man. Push the letters MAN to the side of your letter board.-- Have you pushed the letters MAN to the side of your letter board.
Blank	17.	If so, good. The letters MAN spell man. Spell the word man on your letter board.-- Have you spelled man on your letter board?
MAN Board	18.	If so, good. What word did you just spell?-- Good if you said man. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. Push the letters MAN to the side of your letter board.-- Have you pushed the letters MAN to the side of your letter board.
Blank	19.	If so, good. Spell the word man on your letter board.-- Have you spelled the word man on your letter board?
MAN Board	20.	If so, good. What word did you just spell?-- Good if you said man.

LESSON II

Slide		
Picture Man	1.	This is a man. The letters MAN spell the word man. Spell the word man on your letter board.-- Have you spelled man on your letter board?
MAN Board	2.	If so, good. What word did you just spell?-- Good if you said man. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. Push the letters MAN to the side of your letter board. Have you pushed the letters MAN to the side of your letter board?
Blank	3.	If so, good. Spell the word man on your letter board.-- Have you spelled the word man on your letter board?
MAN Board	4.	If so, good. What word did you just spell?-- Right if you said man. Push the letters MAN to the side of your letter board.-- Have you pushed the letters MAN to the side of your letter board?
Blank	5.	If so, good.
C Board	6.	What is the name of this letter?-- Right if you said C. Every letter has a name and a sound. The sound for the letter C is (k). What is the sound for the letter C?-- Right if you said (k). The sound for the letter C is (k).
C Board	7.	What is the sound of this letter?-- Right if you said (k). The sound for the letter C is (k). What is the sound for the letter C?-- Right if you said (k).
C Board	8.	What is the name of this letter?-- Right if you said C. The sound for the letter C is (k). What is the sound for the letter C?-- Right if you said (k). The sound for the letter C is (k).
C Board	9.	What is the sound of this letter?-- Right if you said (k). The sound for the letter C is (k). What is the sound for the letter C?-- Right if you said (k).
Picture Can	10.	This is a can. You may put many things in a can. You may put pencils in a can. Your mother may buy a can of carrots from the store. We will spell the word can. Find the letter C. Put the letter C in the middle of your letter board.-- Have you put the letter C in the middle of your letter board?

Slide		
Picture Can Can Board	11.	If so, good. What is the sound of the letter C?-- Good if you said (k). Find the letter A. Put the letter A on your letter board next to the C.-- Have you put the letter A on your letter board next to the C?
Picture Can CA Board	12.	If so, good. What is the sound of the letter A?-- Good if you said (ae). Find the N. Put the letter N on your letter board next to the A.-- Have you put the letter N on your letter board next to the A?
Picture Can CAN Board	13.	If so, good. What is the sound of the letter N?-- Good if you said (n). Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (n), can, can, can. The letters CAN spell the word can.
Picture Can CAN Board	14.	What word is this?-- Right if you said can. Point to your letters on your letter board and say their sounds-- Good if you said (k), (ae), (n), can, can, can. The letters CAN spell the word can. What word do the letters CAN spell?-- Right if you said can. Push the letters CAN to the side of your letter board.-- Have you pushed the letters CAN to the side of your letter board.
Blank	15.	If so, good. The letters CAN spell the word can. We will spell the word can. Find the C in your letter tray. Put the letter C in the middle of your letter board.--Have you put the letter C in the middle of your letter board?
Picture Can C Board	16.	If so, good. What is the sound of the letter C?-- Right if you said (k). Find the letter A. Put the A on your letter board next to the C.--Find the letter N. Put the N on your letter board next to the A.-- Have you put the A and N on your letter board?
Picture Can CAN Board	17.	If so, good. What word did you just spell?-- Good if you said can. The letters CAN spell the word can. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (n), can, can, can. The letters CAN spell the word can.

Slide		
CAN Board	18.	What word is this?-- Right if you said can. Point to your letters on your letter board and say their sounds.-- Right if you said (k), (ae), (n), can, can, can. The letters CAN spell the word can. Push the letters CAN to the side of your letter board.-- Have you pushed the letters CAN to the side of your letter board?
Picture Can	19.	If so, good. Spell the word can on your letter board.-- Have you spelled the word can on your letter board?
CAN Board	20.	If so, good. What word did you just spell?-- Good if you said can. Put the C of can to the side of your letter board.-- Have you put the C of can to the side of your letter board?
Blank	21.	If so, good.
Picture Man	22.	This is a picture of a man. We will spell the word man. Find the letter M. Put the M on your letter board in front of the A.-- Have you put the M on your letter board in front of the A?
Picture Man MAN Board	23.	If so, good. What word did you just spell?-- Right if you said man. Put the M of man to the side of your letter board.-- Have you put the letter M to the side of your letter board?
Blank	24.	If so, good.
Picture Can	25.	This is a picture of a can. We will spell the word can. Find the letter C. Put the C on your letter board in front of the A.-- Have you put the C on your letter board in front of the A?
Picture Can CAN Board	26.	If so, good. What word did you just spell?-- Right if you said can. Put the C of can to the side of your letter board.-- Have you put the letter C to the side of your letter board?
Blank	27.	If so, good. Spell the word man on your letter board.-- Have you spelled the word man on your letter board?

Slide		
MAN Board	28.	If so, good. What word did you just spell?-- Right if you said man. Put the M of man to the side of your letter board.-- Have you put the M of man to the side of your letter board?
Blank	29.	If so, good. Spell the word can on your letter board.-- Have you spelled the word can on your letter board?
CAN Board	30.	If so, good. What word did you just spell?-- Right if you said can.

LESSON III

Picture Man MAN Board	1.	What word is this?-- Right if you said man.
Picture Can CAN Board	2.	What word is this?-- Right if you said can.
MAN Board	3.	What word is this?-- Right if you said man.
CAN Board	4.	What word is this?-- Right if you said can.
P Board	5.	What is the name of this letter?-- Right if you said P. Every letter has a name and a sound. The sound for the letter P is (p). What is the sound for the letter P?-- Right if you said (p). The sound for the letter P is (p).
P Board	6.	What is the sound of this letter?-- Right if you said (p). The sound for the letter P is (p). What is the sound for the letter P?-- Right if you said (p).
P Board	7.	What is the name of this letter?-- Right if you said P. The sound for the letter P is (p). What is the sound for the letter P?-- Right if you said (p). The sound for the letter P is (p).
P Board	8.	What is the sound of this letter?-- Right if you said (p). The sound for the letter P is (p). What is the sound for the letter P?-- Right if you said (p).

Slide		
Picture Pan	9.	This is a pan. Your mother cooks food in a pan. We will spell the word pan. Find the letter P. Put the letter P in the middle of your letter board.-- Have you put the letter P in the middle of your letter board?
Picture Pan P Board	10.	If so, good. What is the sound of the letter P?-- Good if you said (p). Find the letter A. Put the letter A on your letter board next to the P.--Find the letter N. Put the letter N on your letter board next to the A.-- Have you put the letters A and N on your letter board?
Picture Pan PAN Board	11.	If so, good. The letters PAN spell the word pan. What word did you just spell?-- Good if you said pan. The letters PAN spell the word pan. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (ae), (n), pan, pan, pan. The letters PAN spell the word pan. What word do the letters PAN spell?-- Right if you said pan. Push the letters PAN to the side of your letter board.--Have you pushed the letters PAN to the side of your letter board?
Blank	12.	If so, good. The letters PAN spell the word pan. We will spell the word pan. Find the letter P. Put the letter P in the middle of your letter board.--Have you put the P in the middle of your letter board?
Picture Pan P Board	13.	If so, good. What is the sound of the letter P?-- Right if you said (p). Find the A. Put the A on your letter board next to the P.--Find the N. Put the N on your letter board next to the A.-- Have you put the A and N on your letter board?
Picture Pan PAN Board	14.	If so, good. What word did you just spell?-- Good if you said pan. The letters PAN spell the word pan. Point to your letters on your letter board and say their sounds.-- Right if you said (p), (ae), (n), pan, pan, pan. The letters PAN spell the word pan.
PAN Board	15.	What word is this?-- Right if you said pan. Point to your letters on your letter board and say their sounds.-- Right if you said (p), (ae), (n), pan, pan, pan. The letters PAN spell the word pan. Push the letters PAN to the side of your letter board.-- Have you pushed the letters PAN to the side of your letter board?

Slide		
Blank	16.	If so, good. Spell the word pan on your letter board.-- Have you spelled the word pan on your letter board?
PAN Board	17.	If so, good. What word did you just spell?-- Good if you said pan. Put the P of pan to the side of your letter board.-- Have you put the P of pan to the side of your letter board?
Blank	18.	If so, good.
Picture Can	19.	This is a picture of a can. We will spell the word can. Find the C. Put the C on your letter board in front of the A.-- Have you put the C on your letter board in front of the A?
CAN Board	20.	If so, good. What word did you just spell?-- Right if you said can. Put the C of can to the side of your letter board.-- Have you put the C of can to the side of your letter board?
Blank	21.	If so, good. We will spell the word pan. Find the P in your letter tray. Put the P on your letter board in front of the A.-- Have you put the P on your letter board in front of the A?
PAN Board	22.	If so, good. What word did you just spell?-- Right if you said pan. Put the P of pan to the side of your letter board.-- Have you put the P of pan to the side of your letter board?
Blank	23.	If so, good. We will spell the word man. Find the M. Put the M on your letter board in front of the A.-- Have you put the M on your letter board in front of the A?
MAN Board	24.	If so, good. What word did you just spell?-- Good if you said man. Spell the word can on your letter board.-- Have you spelled the word can on your letter board?
CAN Board	25.	If so, good. What word did you just spell?-- Good if you said can. Spell the word pan on your letter board.-- Have you spelled the word pan on your letter board?
PAN Board	26.	If so, good. What word did you just spell?-- Good if you said pan. Spell the word man on your letter board.-- Have you spelled the word man on your letter board?

Slide	
MAN Board	27. What word did you just spell?--Right if you said man.
PAN Board	28. What word is this?-- Right if you said pan.
CAN Board	29. What word is this?-- Right if you said can.
MAN Board	30. What word is this?-- Right if you said man.

LESSON IV

A Board	1. What is the name of this letter?-- Right if you said A. What is the sound of this letter?-- Right if you said (ae). The sound for the letter A is (ae).
N Board	2. What is the name of this letter?-- Right if you said N. What is the sound of this letter?-- Right if you said (n). The sound for the letter N is (n).
M Board	3. What is the name of this letter?-- Right if you said M. What is the sound for this letter?-- Right if you said (m). The sound for the letter M is (m).
C Board	4. What is the name of this letter?-- Right if you said C. What is the sound for this letter?-- Right if you said (k). The sound for the letter C is (k).
P Board	5. What is the name of this letter?-- Right if you said P. What is the sound for this letter?-- Right if you said (p). The sound for the letter P is (p).
MAN Board	6. The sounds of letters make words. What is this word?-- Right if you said man. The letters MAN spell the word man.
CAN Board	7. What is this word?-- Right if you said can. The letters CAN spell the word can.
PAN Board	8. What is this word?-- Right if you said pan. The letters PAN spell the word pan.
Picture Map	9. This is a map. A map is used to tell us how to get someplace. We will spell the word map. Find the M. Put the M in the middle of your letter board.-- Have you put the M in the middle of your letter board?

Slide		
Picture Map M Board	10.	If so, good. Find the A. Put the A on your letter board next to the M.-- Have you put the A on your letter board next to the M?
Picture Map MA Board	11.	If so, good. Find the P. Put the P on your letter board next to the A.-- Have you put the P on your letter board next to the A?
Picture Map MAP Board	12.	If so, good. The letters MAP spell the word map. What word did you just spell?-- Good if you said map. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (p), map, map, map. The letters MAP spell the word map.
MAP Board	13.	What word is this?-- Good if you said map. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (p), map, map, map. The letters MAP spell the word map. Put the M of map to the side of your letter board.-- Have you put the M of map to the side of your letter board?
Blank	14.	If so, good.
Picture Cap	15.	This is a picture of a cap. Boys wear a cap to keep their head warm. We will spell the word cap. Find the C. Put the C on your letter board in front of the A.-- Have you put the C on your letter board in front of the A?
Picture Cap CAP Board	16.	If so, good. The letters CAP spell the word cap. What word did you just spell?-- Good if you said cap. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (p), cap, cap, cap. The letters CAP spell the word cap.
CAP Board	17.	What word is this?-- Good if you said cap. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (p), cap, cap, cap. The letters CAP spell the word cap. Put the C of cap to the side of your letter board.-- Have you put the C of cap to the side of your letter board?
Blank	18.	If so, good.

Slide		
Picture Nap	19.	This is a picture of a boy taking a nap. Do you take a nap every day? We can spell the word nap. Find the N. Put the N on your letter board in front of the A.-- Have you put the N on your letter board in front of the A?
Picture Nap NAP Board	20.	If so, good. The letters NAP spell the word nap. What word did you just spell?-- Good if you said nap. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (ae), (p), nap, nap, nap. The letters NAP spell the word nap.
NAP Board	21.	What word is this?-- Good if you said nap. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (ae), (p), nap, nap, nap. The letters NAP spell the word nap. Put the N of nap to the side of your letter board.-- Have you put the N of nap to the side of your letter board?
Blank	22.	If so, good. The letters MAP spell the word map. Spell the word map on your letter board.-- Have you spelled the word map on your letter board?
MAP Board	23.	If so, good. What word did you just spell?-- Good if you said map. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (p), map, map, map. What word do the letters MAP spell?-- Good if you said map. Put the M of map to the side of your letter board.-- Have you put the M of map to the side of your letter board?
Blank	24.	If so, good. The letters CAP spell the word cap. Spell the word cap on your letter board.-- Have you spelled the word cap on your letter board?
CAP Board	25.	If so, good. What word did you just spell?-- Good if you said cap. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (p), cap, cap, cap. What word do the letters CAP spell?-- Good if you said cap. Put the C of cap to the side of your letter board.-- Have you put the C of cap to the side of your letter board?

Slide		
Blank	26.	If so, good. The letters NAP spell nap. Spell the word nap on your letter board.-- Have you spelled the word nap on your letter board?
NAP Board	27.	If so, good. What word did you just spell?-- Good if you said nap. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (ae), (p), nap, nap, nap. What word do the letters NAP spell?-- Good if you said nap.
MAP Board	28.	What word is this?-- Good if you said map.
CAP Board	29.	What word is this?-- Good if you said cap.
NAP Board	30.	What word is this?-- Good if you said nap.

LESSON V

Review - Man, Can, Pan, Map, Cap, Nap

Slide		
Picture Man	1.	This is a man. Spell the word man on your letter board.-- Have you spelled man on your letter board?
MAN Board	2.	If so, good. What word did you just spell?-- Good if you said man. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (n), man, man, man. The letters MAN spell the word man.
Picture Map	3.	This is a map. Spell the word map on your letter board.-- Have you spelled map on your letter board?
MAP Board	4.	If so, good. What word did you just spell?-- Good if you said map. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (p), map, map, map. The letters MAP spell the word map.
Picture Cap	5.	This is a cap. Spell the word cap on your letter board.-- Have you spelled cap on your letter board?

Slide		
CAP Board	6.	If so, good. What word did you just spell?-- Good if you said cap. Point to your letters on your letter board and say their sounds-- Good if you said (k), (ae), (p), cap, cap, cap. The letters CAP spell the word cap.
Picture Can	7.	This is a can. Spell the word can on your letter board.-- Have you spelled can on your letter board?
CAN Board	8.	If so, good. What word did you just spell?-- Good if you said can. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (n), can, can, can. The letters CAN spell the word can.
Picture Pan	9.	This is a pan. Spell the word pan on your letter board.-- Have you spelled pan on your letter board?
PAN Board	10.	If so, good. What word did you just spell?-- Good if you said pan. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (ae), (n), pan, pan, pan. The letters PAN spell the word pan.
Picture Nap	11.	This is a picture of a boy taking a nap. Spell the word nap on your letter board.-- Have you spelled nap on your letter board?
NAP Board	12.	If so, good. What word did you just spell?-- Good if you said nap. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (ae), (p), nap, nap, nap. The letters NAP spell the word nap.
CAP Board	13.	What word is this?-- Right if you said cap.
MAP Board	14.	What word is this?-- Right if you said map.
MAN Board	15.	What word is this?-- Right if you said man.
PAN Board	16.	What word is this?-- Right if you said pan.
CAN Board	17.	What word is this?-- Right if you said can.
NAP Board	18.	What word is this?-- Right if you said nap.

Slide		
Picture Cap	19.	Spell the word that goes with the picture on your letter board.-- Have you spelled the word cap on your letter board?
Picture Cap CAP Board	20.	If so, good. What word did you just spell?-- Right if you said cap.
Picture Man	21.	Spell the word that goes with the picture on your letter board.-- Have you spelled the word man on your letter board?
Picture Man MAN Board	22.	If so, good. What word did you just spell?-- Right if you said man.
Picture Map	23.	Spell the word that goes with the picture on your letter board. Have you spelled the word map on your letter board?
Picture Map MAP Board	24.	If so, good. What word did you just spell?-- Right if you said map.
Picture Nap	25.	Spell the word that goes with the picture on your letter board.-- Have you spelled the word nap on your letter board?
Picture Nap NAP Board	26.	If so, good. What word did you just spell?-- Good if you said nap.
Picture Pan	27.	Spell the word that goes with the picture on your letter board.--Have you spelled the word pan on your letter board?
Picture Pan PAN Board	28.	If so, good. What word did you just spell?-- Good if you said pan.
Picture Can	29.	Spell the word that goes with the picture on your letter board.--Have you spelled the word can on your letter board?
Picture Can CAN Board	30.	If so, good. What word did you just spell?-- Good if you said can.

LESSON VI

Slide	
T Board	1. What is the name of this letter?-- Right if you said T. Every letter has a name and a sound. The sound for the letter T is (t). What is the sound for the letter T?-- Right if you said (t). The sound for the letter T is (t).
T Board	2. What is the sound of this letter?-- Right if you said (t). The sound for the letter T is (t). What is the sound for the letter T?-- Right if you said (t).
T Board	3. What is the name of this letter?-- Right if you said (t). The sound for the letter T is (t). What is the sound for the letter T?-- Right if you said (t). The sound for the letter T is (t).
T Board	4. What is the sound of this letter?-- Right if you said (t). The sound for the letter T is (t). What is the sound for the letter T?-- Right if you said (t).
Picture Cat	5. This is a cat. A cat makes a good pet. We will spell the word cat. Find the letter C. Put the C in the middle of your letter board.-- Have you put the C on your letter board?
Picture Cat C Board	6. If so, good. Find the letter A. Put the A on your letter board next to the C.--Have you put the A on your letter board next to the C?
Picture Cat CA Board	7. If so, good. Find the letter T. Put the T on your letter board next to the A.--Have you put the T on your letter board next to the A?
Picture Cat CAT Board	8. If so, good. What is the sound of the letter T?-- Good if you said (t). The letters CAT spell the word cat. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (t), cat, cat, cat.
CAT Board	9. The letters CAT spell the word cat. What word is this? -- Good if you said cat. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (t), cat, cat, cat. The letters CAT spell the word cat. Put the C of cat to the side of your letter board.--Have you put the C of cat to the side of your letter board?

Slide	
Blank	10. If so, good.
Picture Mat	11. This is a picture of a mat. A mat may be used to wipe your feet. We will spell the word mat. Find the letter M. Put the M on your letter board in front of the A.-- Have you put the M on your letter board in front of the A?
Picture Mat MAT Board	12. If so, good. The letters MAT spell the word mat. What word did you just spell?-- Good if you said mat. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (t), mat, mat, mat.
MAT Board	13. The letters MAT spell the word mat. What word is this?-- Good if you said mat. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (t), mat, mat, mat. The letters MAT spell the word mat. Put the M of mat to the side of your letter board.--Have you put the M of mat to the side of your letter board?
Blank	14. If so, good.
Picture Pat	15. We can pat a dog on the head. Do you pat your dog on its head? We will spell the word pat. Find the letter P. Put the P on your letter board in front of the A.-- Have you put the P on your letter board in front of the A?
Picture Pat PAT Board	16. If so, good. The letters PAT spell the word pat. What word did you just spell?-- Good if you said pat. Point to your letters on your letter board and say their sounds. Good if you said (p), (ae), (t), pat, pat, pat.
PAT Board	17. The letters PAT spell the word pat. What word is this? -- Good if you said pat. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (ae), (t), pat, pat, pat. The letters PAT spell the word pat. Push the letters PAT to the side of your letter board.-- Have you pushed the letters PAT to the side of your letter board?

Slide		
Picture Tap	18.	If so, good. We can tap on a table or floor. What do you tap on? We can spell the word tap. Find the letter T. Put the T in the middle of your letter board.-- Find the A. Put the A on your letter board next to the T.-- Find the letter P. Put the P on your letter board next to the A.-- Have you put the letters TAP on your letter board?
Picture Tap TAP Board	19.	If so, good. The letters TAP spell the word tap. What word did you just spell?-- Good if you said tap. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (ae), (p), tap, tap, tap.
TAP Board	20.	What word is this?-- Good if you said tap. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (ae), (p), tap, tap, tap. The letters TAP spell the word tap.
Picture Cat	21.	This is a cat. The letters CAT spell the word cat. Spell the word cat on your letter board.-- Have you spelled cat on your letter board?
CAT Board	22.	If so, good. What word did you just spell?-- Good if you said cat. Point to your letters on your letter board and say their sounds.-- Good if you said (k), (ae), (t), cat, cat, cat.
Picture Mat	23.	This is a mat. The letters MAT spell the word mat. Spell the word mat on your letter board.-- Have you spelled mat on your letter board?
MAT Board	24.	If so, good. What word did you just spell?-- Good if you said mat. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (ae), (t), mat, mat, mat.
Picture Pat	25.	You can pat your dog on the head. The letters PAT spell the word pat. Spell the word pat on your letter board.-- Have you spelled pat on your letter board?
PAT Board	26.	If so, good. What word did you just spell?-- Good if you said pat. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (ae), (t), pat, pat, pat.

Slide		
Picture Tap	27.	You can tap the table. The letters tap spell the word tap. Spell the word tap on your letter board.-- Have you spelled tap on your letter board?
TAP Board	28.	If so, good. What word did you just spell? Good if you said tap. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (ae), (p), tap, tap, tap.
CAT Board	29.	What word is in the picture?-- Right if you said cat.
PAT Board	30.	What word is in the picture?-- Right if you said pat.

LESSON VII

H Board	1.	What is the name of this letter?-- Right if you said H. Every letter has a name and a sound. The sound for the letter H is (h). What is the sound for the letter H?-- Right if you said (h). The sound for the letter H is (h).
H Board	2.	What is the sound of this letter?-- Right if you said (h). The sound for the letter H is (h). What is the sound for the letter H?-- Right if you said (h).
H Board	3.	What is the name of this letter?-- Right if you said (h). The sound for the letter H is (h). What is the sound for the letter H?-- Right if you said (h). The sound for the letter H is (h).
H Board	4.	What is the sound of this letter?-- Right if you said (h). The sound for the letter H is (h). What is the sound for the letter H?-- Right if you said (h).
Picture Hat	5.	This is a hat. You wear a hat on your head. Do you like to wear a hat? We will spell the word hat. Find the letter H. Put the H in the middle of your letter board. -- Have you put the H on your letter board?
Picture Hat H Board	6.	If so, good. What is the sound for the letter H?-- Good if you said (h). Find the letter A. Put the A on your letter board next to the H.-- Have you put the A on your letter board next to the H?

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Picture Hat HA Board	7.	If so, good. Find the letter T. Put the T on your letter board next to the A.--Have you put the T on your letter board next to the A?
Picture Hat HAT Board	8.	If so, good. The letters HAT spell the word hat. What word did you just spell?-- Good if you said hat. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (t), hat, hat, hat. The letters HAT spell the word hat.
HAT Board	9.	What word is this?-- Good if you said hat. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (t), hat, hat, hat. Put the T of hat to the side of your letter board. -- Have you put the T of hat to the side of your letter board?
Blank	10.	If so, good.
Picture Ham	11.	This is a picture of a ham. Ham is good to eat. Do you like to eat ham? We will spell the word ham. Find the letter M. Put the M on your letter board next to the A.-- Have you put the M on your letter board next to the A?
Picture Ham HAM Board	12.	If so, good. The letters HAM spell the word ham. What word did you just spell?-- Good if you said ham. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (m), ham, ham, ham.
HAM Board	13.	The letters HAM spell the word ham. What word is this?-- Good if you said ham. Point to your letters on your letter board and say their sounds. Good if you said (h), (ae), (m), ham, ham, ham. Push the letters HAM to the side of your letter board.-- Have you pushed the letters HAM to the side of your letter board?
	14.	If so, good.
Picture Hat	15.	This is a hat. The letters HAT spell the word hat. Spell the word hat on your letter board.-- Have you spelled the word hat on your letter board?

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HAT Board	16.	If so, good. What word did you just spell.-- Good if you said hat. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (t), hat, hat, hat. Push the letters HAT to the side of your letter board.-- Have you pushed the letters HAT to the side of your letter board?
Picture Ham	17.	If so, good. This is a ham. The letters HAM spell the word ham. Spell the word ham on your letter board.-- Have you spelled the word ham on your letter board?
HAM Board	18.	If so, good. What word did you just spell? Good if you said ham. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (m), ham, ham, ham. The letters HAM spell the word ham. Push the letters HAM to the side of your letter board.-- Have you pushed the letters HAM to the side of your letter board?
Picture Hat HAT and MAN Board	19.	If so, good. What words are on the letter board? Right if you said hat and man. Spell the word that goes with the picture on your letter board.-- Have you spelled the word hat on your letter board?
Picture Hat HAT Board	20.	If so, good. What word did you just spell?-- Good if you said hat.
Picture Cat CAT and PAN Board	21.	What words are on the letter board?-- Right if you said cat and pan. Spell the word that goes with the picture on your letter board.-- Have you spelled the word cat on your letter board?
Picture Cat CAT Board	22.	If so, good. What word did you just spell?-- Good if you said cat.
Picture Pat PAT and CAN Board	23.	What words are on the letter board?-- Right if you said pat and can. Spell the word that goes with the picture on your letter board.-- Have you spelled the word pat on your letter board?
Picture Pat PAT Board	24.	If so, good. What word did you just spell?-- Good if you said pat.

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Picture Mat MAT and CAP Board	25.	What words are on the letter board?-- Right if you said mat and cap. Spell the word that goes with the picture on your letter board.-- Have you spelled the word mat on your letter board?
Picture Mat MAT Board	26.	If so, good. What word did you just spell?-- Good if you said mat.
Picture Ham HAM and NAP Board	27.	What words are on the letter board?-- Right if you said ham and nap. Spell the word that goes with the picture on your letter board.-- Have you spelled the word ham on your letter board?
Picture Ham HAM Board	28.	If so, good. What word did you just spell?-- Good if you said ham.
Picture Tap TAP and HAM Board	29.	What words are on the letter board?-- Right if you said tap and ham. Spell the word that goes with the picture on your letter board.-- Have you spelled the word tap on your letter board?
Picture Tap TAP Board	30.	If so, good. What word did you just spell?-- Good if you said tap.

LESSON VIII

Picture Man A MAN Board	1.	This is a man. The letter A all alone makes the word A. What words are in the picture?-- Right if you said A Man. Spell the words A Man on your letter board.-- Have you spelled the words A Man on your letter board?
A MAN Board	2.	If so, good. What words did you just spell?-- Good if you said A Man.
Picture Hat	3.	This is a hat. The letter A all alone makes the word A. Spell the words A Hat on your letter board.-- Have you spelled the words A Hat on your letter board?
A HAT Board	4.	If so, good. What words did you just spell?-- Good if you said A Hat.
Picture Mat	5.	This is a mat. Spell the words A Mat on your letter board.-- Have you spelled the words A Mat on your letter board?

Slide	
A MAT Board	6. If so, good. What words did you just spell?-- Good if you said A Mat.
Picture Map	7. This is a map. Spell the words A Map on your letter board.-- Have you spelled the words A Map on your letter board?
A MAP Board	8. If so, good. What words did you just spell?-- Good if you said A Map.
Picture Pan	9. This is a pan. Spell the words A Pan on your letter board.-- Have you spelled the words A Pan on your letter board?
A PAN Board	10. If so, good. What words did you just spell?-- Good if you said A Pan.
Picture Nap	11. This is a boy taking a nap. Spell the words A Nap on your letter board.-- Have you spelled the words A Nap on your letter board?
A NAP Board	12. If so, good. What words did you just spell.-- Good if you said A Nap.
Picture Cap	13. This is a cap. Spell the words A Cap on your letter board.-- Have you spelled the words A Cap on your letter board?
A CAP Board	14. If so, good. What words did you just spell?-- Good if you said A Cap.
Picture Can	15. This is a can. Spell the words A Can on your letter board.-- Have you spelled the words A Can on your letter board?
A CAN Board	16. If so, good. What words did you just spell?-- Good if you said A Can.
Picture Cat	17. This is a cat. Spell the words A Cat on your letter board.-- Have you spelled the words A Cat on your letter board?
A CAT Board	18. If so, good. What words did you just spell?-- Good if you said A Cat.

Slide		
Picture Pat	19.	You give a puppy a pat on the head. Spell the words A Pat on your letter board.-- Have you spelled the words A Pat on your letter board?
A PAT Board	20.	If so, good. What words did you just spell?-- Good if you said A Pat.
Picture Tap	21.	You can give the table a tap. Spell the words A Tap on your letter board.-- Have you spelled the words A Tap on your letter board?
A TAP Board	22.	If so, good. What words did you just spell?-- Good if you said A Tap.
Picture Ham	23.	This is a ham. Spell the words A Ham on your letter board.-- Have you spelled the words A Ham on your letter board?
A HAM Board	24.	If so, good. What words did you just spell? Good if you said A Ham.
A CAT Board	25.	What words are these?-- Good if you said A Cat.
A MAT Board	26.	What words are these?-- Good if you said A Mat.
A PAT Board	27.	What words are these?-- Good if you said A Pat.
A TAP Board	28.	What words are these?-- Good if you said A Tap.
A HAT Board	29.	What words are these?-- Good if you said A Hat.
A HAM Board	30.	What words are these?-- Good if you said A Ham.

LESSON IX

Slide	
I Board	1. What is the name of this letter?-- Right if you said I. Every letter has a name and a sound. The sound for the letter I is (i). What is the sound for the letter I?-- Right if you said (i). The sound for the letter I is (i).
I Board	2. What is the sound of this letter?-- Right if you said (i). The sound for the letter I is (i). What is the sound for the letter I?-- Right if you said (i).
I Board	3. What is the name of this letter?-- Right if you said I. The sound for the letter I is (i). What is the sound for the letter I?-- Right if you said (i). The sound for the letter I is (i).
I Board	4. What is the sound of this letter?-- Right if you said (i). The sound for the letter I is (i). What is the sound for the letter I?-- Right if you said (i).
Picture Pit	5. This is a pit. It is easy to fall into a pit. We will spell the word pit. Spell the word A on your letter board.-- Have you spelled the word A on your letter board? If so, good. Find the letter P. Put the P in the middle of the letter board.-- Have you put the P in the middle of your letter board?
Picture Pit A P Board	6. If so, good. Find the letter I. Put the I on your letter board next to the letter P.-- Have you put the I on your letter board next to the P?
Picture Pit A PI Board	7. If so, good. What is the sound for the letter I.--Goo Good if you said (i). Find the letter T. Put the T on your letter board next to the I.-- Have you put the T on your letter board next to the I?
Picture Pit A PIT Board	8. If so, good. You have spelled the words A Pit. What words did you just spell?-- Good if you said A Pit. Point to the letters of the word pit and say their sounds.-- Good if you said (p), (i), (t), pit, pit, pit. The letters PIT spell the word pit. Put the I of pit to the side of your letter board.-- Have you put the I of pit to the side of your letter board?

Slide		
Picture Pit A P_T Board	9.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Pit A PIT Board	10.	If so, good. What word did you just spell?-- Good if you said pit. Point to your letters and say their sounds.--Good if you said (p), (i), (t), pit, pit, pit. The letters PIT spell the word pit. Put the I of pit to the side of your letter board.-- Have you put the I of pit to the side of your letter board?
Picture Pat A P_T Board	11.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Pat A PAT Board	12.	If so, good. What word did you just spell?-- Good if you said pat. Point to the letters of pat and say their sounds.-- Good if you said (p), (ae), (t), pat, pat, pat. The letters PAT spell the word pat. Push the letters PAT to the side of your letter board.-- Have you pushed the letters PAT to the side of your letter board?
Picture Pit A Board	13.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word pit?
Picture Pit A PIT Board	14.	If so, good. What word did you just spell?-- Good if you said pit. Point to the letters of the word pit and say their sounds.-- Good if you said (p), (i), (t), pit, pit, pit. The letters PIT spell the word pit. Put the T of pit to the side of your letter board.-- Have you put the T of pit to the side of your letter board?
Picture Pin A PI_ Board	15.	If so, good. This is a pin. We can hold things together with a pin. We will spell the word pin. Find the letter N. Put the letter N on your letter board next to the I.-- Have you put the letter N on your letter board next to the I?
Picture Pin A PIN Board	16.	If so, good. You have spelled the words A Pin. What words did you just spell?-- Good if you said A Pin. Point to the letters of the word pin and say their sounds.-- Good if you said (p), (i), (n), pin, pin, pin. The letters PIN spell the word pin. Put the I of pin to the side of your letter board.-- Have you put the I of pin to the side of your letter board?

Slide		
Picture Pin A P_N Board	17.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Pin A PIN Board	18.	If so, good. What word did you just spell.-- Good if you said pin. Point to the letters in the word pin and say their sounds.-- Good if you said (p), (i), (n), pin, pin, pin. The letters PIN spell the word pin. Put the I of pin to the side of your letter board.-- Have you put the I of pin to the side of your letter board?
Picture Pan A P_N Board	19.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Pan A PAN Board	20.	If so, good. What word did you just spell?-- Good if you said pan. Point to the letters of the word pan and say their sounds.-- Good if you said (p), (ae), (n), pan, pan, pan. The letters PAN spell the word pan. Put the A of pan to the side of your letter board. -- Have you put the A of pan to the side of your letter board?
Picture Pin A P_N Board	21.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word pin?
Picture Pin A PIN Board	22.	If so, good. What word did you just spell?-- Good if you said pin. Point to the letters of the word pin and say their sounds.-- Good if you said (p), (i), (n), pin, pin, pin. The letters PIN spell the word pin. Push the letters PIN to the side of your letter board.-- Have you pushed the letters PIN to the side of your letter board?
Picture Nip A Board	23.	If so, good. This is a nip. A dog can nip your ankle. We will spell the word nip. Find the letter N. Put the N in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the N.-- Find the letter P. Put the P on your letter board next to the I.-- Have you put the letters NIP on your letter board?

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Picture Nip A NIP Board	24.	If so, good. You have spelled the words A Nip. What word did you just spell?-- Good if you said A Nip. Point to the letters of the word nip and say their sounds.-- Good if you said (n), (i), (p), nip, nip, nip. The letters NIP spell the word nip. Put the I of nip to the side of your letter board.-- Have you put the I of nip to the side of your letter board?
Picture Nip A N_P Board	25.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Nip A NIP Board	26.	If so, good. What word did you just spell.-- Good if you said nip. Point to the letters in the word nip and say their sounds.-- Good if you said (n), (i), (p), nip, nip, nip. The letters NIP spell the word nip. Push the I of nip to the side of your letter board.-- Have you put the I of nip to the side of your letter board?
Picture Nap A N_P Board	27.	If so, good. Spell the word that goes with the picture. -- Have you spelled the word that goes with the picture?
Picture Nap A NAP Board	28.	If so, good. What word did you just spell?-- Good if you said nap. Point to the letters of the word nap and say their sounds.-- Good if you said (n), (ae), (p), nap, nap, nap. Put the A of nap to the side of your letter board.-- Have you put the A of nap to the side of your letter board?
Picture Nip A Board	29.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word nip?
Picture Nip A NIP Board	30.	If so, good. What word did you just spell?-- Good if you said nip. Point to the letters of the word nip and say their sounds.-- Good if you said (n), (i), (p), nip, nip, nip. The letters NIP spell the word nip.

LESSON X

Slide	
Picture Pit A Board	1. This is a pit. The letters PIT spell the word pit. Spell the word pit on your letter board.-- Have you spelled the word pit on your letter board?
Picture Pit A PIT Board	2. If so, good. What word did you just spell?-- Right if you said A Pit. Point to the letters of the word pit and say their sounds.-- Good if you said (p), (i), (t), pit, pit, pit. The letters PIT spell the word pit. Put the T of pit to the side of your letter board.-- Have you put the T of pit to the side of your letter board?
Picture Pin A PI_ Board	3. If so, good. This is a pin. The letters PIN spell the word pin. Spell the word pin on your letter board.-- Have you spelled the word pin on your letter board?
Picture Pin A PIN Board	4. If so, good. What word did you just spell?-- Right if you said A Pin. Point to the letters of the word pin and say their sounds.-- Good if you said (p), (i), (n), pin, pin, pin. The letters PIN spell the word pin. Push the letters PIN to the side of your letter board.-- Have you pushed the letters PIN to the side of your letter board?
Picture Nip	5. If so, good. This is a nip. The letters NIP spell the word nip. Spell the word nip on your letter board.-- Have you spelled the word nip on your letter board?
Picture Nip A NIP Board	6. If so, good. What word did you just spell?-- Right if you said A Nip. Point to the letters of the word nip and say their sounds.-- Good if you said (n), (i), (p), nip, nip, nip. The letters NIP spell the word nip. Put the N of nip to the side of your letter board. -- Have you put the N of nip to the side of your letter board?
Picture Tip A _IP Board	7. If so, good. This is the tip of a finger. We will spell the word tip. Find the letter T. Put the T on your letter board in front of the I.-- Have you put the letter T on your letter board in front of the I?
Picture Tip A TIP Board	8. If so, good. You have spelled the word A Tip. What word did you just spell?-- Good if you said A Tip. Point to the letters of the word tip and say their sounds.-- Good if you said (t), (i), (p), tip, tip,

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		tip. The letters TIP spell the word tip. Put the I of tip to the side of your letter board.-- Have you put the I of tip to the side of your letter board?
Picture Tip A T_P Board	9.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Tip A TIP Board	10.	If so, good. What word did you just spell?-- Good if you said tip. Point to the letters in the word tip and say their sounds.-- Good if you said (t), (i), (p), tip, tip, tip. The letters TIP spell the word tip. Put the I of tip to the side of your letter board.-- Have you put the I of tip to the side of your letter board?
Picture Tap A T_P Board	11.	If so, good. Spell the word that goes with the picture. -- Have you spelled the word that goes with the picture?
Picture Tap A TAP Board	12.	If so, good. What word did you just spell?-- Good if you said tap. Point to the letters of the word tap and say their sounds.-- Good if you said (t), (æ), (p), tap, tap, tap. The letters TAP spell the word tap. Put the A of tap to the side of your letter board.-- Have you put the A of tap to the side of your letter board?
Picture Tip A Board	13.	Spell the word on your letter board that goes with the picture.-- Have you spelled the word tip?
Picture Tip A TIP Board	14.	If so, good. What word did you just spell?-- Good if you said tip. Point to the letters of the word tip and say their sounds.-- Good if you said (t), (i), (p), tip, tip, tip. The letters TIP spell the word tip. Push the letters TIP to the side of your letter board.-- Have you pushed the letters TIP to the side of your letter board?
Picture Hit A Board	15.	If so, good. We can hit a ball with a bat. We will spell the word hit. Find the letter H. Put the H in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the H.-- Find the letter T. Put the T on your letter board next to the I.-- Have you put the letters HIT on your letter board?

Slide		
Picture Hit A HIT Board	16.	If so, good. You have spelled the word hit. What word did you just spell?-- Good if you said A Hit. Point to the letters of the word hit and say their sounds.-- Good if you said (h), (i), (t), hit, hit, hit, Put the I of hit to the side of your letter board.-- Have you put the I of hit to the side of your letter board?
Picture Hit A H_T Board	17.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word that goes with the picture?
Picture Hit A HIT Board	18.	If so, good. What word did you just spell?-- Good if you said hit. Point to the letters in the word hit and say their sounds.-- Good if you said (h), (i), (t), hit, hit, hit. The letters HIT spell the word hit. Put the I of hit to the side of your letter board.-- Have you put the I of hit to the side of your letter board?
Picture Hat A H_T Board	19.	If so, good. Spell the word that goes with the picture. -- Have you spelled the word that goes with the picture?
Picture Hat A HAT Board	20.	If so, good. What word did you just spell?-- Good if you said hat. Point to the letters of the word hat and say their sounds.-- Good if you said (h), (ae), (t), hat, hat, hat. The letters HAT spell the word hat. Put the A of hat to the side of your letter board.-- Have you put the A of hat to the side of your letter board?
Picture Hit A Board	21.	If so, good. Spell the word on your letter board that goes with the picture.-- Have you spelled the word hit?
Picture Hit A HIT Board	22.	If so, good. What word did you just spell?-- Good if you said hit. Point to the letters of the word hit and say their sounds.-- Good if you said (h), (i), (t), hit, hit, hit. The letters HIT spell the word hit.
A PIN Board	23.	Read or tell me what words are in the picture.-- Good if you said A Pin.
A PAN Board	24.	Read or tell me what words are in the picture.-- Good if you said A Pan.

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A NIP Board	25.	Read or tell me what words are in the picture.-- Good if you said A Nip.
A NAP Board	26.	Read or tell me what words are in the picture?-- Good if you said A Nap.
A TIP Board	27.	Read or tell me what words are in the picture?-- Good if you said A Tip.
A TAP Board	28.	Read or tell me what words are in the picture?-- Good if you said A Tap.
A HIT Picture	29.	Read or tell me what words are in the picture.-- Good if you said A Hit.
A PIT Board	30.	Read or tell me what words are in the picture.-- Good if you said A Pit.

LESSON XI

IN Board	1.	This is the word in. The letters IN spell the word IN. Spell the word in on your letter board.-- Have you spelled the word in on your letter board?
IN Board	2.	If so, good. The letters IN spell the word in? What word did you just spell?-- Good if you said in. Point to your letters on your letter board and say their sounds.-- Good if you said (i), (n), in, in, in. The letters IN spell the word IN. Push the letters IN to the side of your letter board.-- Have you pushed the letters IN to the side of your letter board?
Picture Pin in Pit A PIN IN A P_T Board	3.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Pin in A Pit. One letter is missing from the word pit. Spell the word pit on your letter board.-- Have you spelled the word pit on your letter board?
A PIN IN A PIT Board	4.	If so, good. What word did you just spell?-- Good if you said pit. The letters PIT spell the word pit. Read or tell me what words are in the picture.-- Good if you said A Pin in A Pit. Push the letters PIT to the side of your letter board.-- Have you pushed the letters PIT to the side of your letter board?

Slide		
Picture Pin In Pan A PIN IN A P_N Board	5.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Pin In A Pan. One letter is missing from the word pan. Spell the word pan on your letter board.-- Have you spelled the word pan on your letter board?
A PIN IN A PAN Board	6.	If so, good. What word did you just spell?-- Good if you said pan. The letters PAN spell the word pan. Read or tell me what words are in the picture.-- Good if you said A Pin In A Pan. Push the letters PAN to the side of your letter board.-- Have you pushed the letters PAN to the side of your letter board?
Picture A Cat In A Hat A C_T IN A HAT Board	7.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Cat In A Hat. One letter is missing from the word cat. Spell the word cat on your letter board.-- Have you spelled the word cat on your letter board?
A CAT IN A HAT Board	8.	If so, good. What word did you just spell.-- Good if you said cat. The letters CAT spell the word cat. Read or tell me what words are in the picture.-- Good if you said A Cat In A Hat. Push the letters CAT to the side of your letter board.-- Have you pushed the letters CAT to the side of your letter board?
Picture A Cat In A Can A CAT IN A C_ _ Board	9.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Cat In A Can. Two letters are missing from the word can. Spell the word can on your letter board.-- Have you spelled the word can on your letter board?
A CAT IN A CAN Board	10.	If so, good. What word did you just spell?-- Good if you said can. The letters CAN spell the word can. Read or tell me what words are in the picture.-- Good if you said A Cat In A Can. Push the letters CAN to the side of your letter board.-- Have you pushed the letters CAN to the side of your letter board?
HIM Board	11.	If so, good. This is the word him. The letters HIM spell the word him. Spell the word him on your letter board.-- Have you spelled the word him on your letter board?

Slide		
HIM Board	12.	If so, good. The letters HIM spell the word him. What word did you just spell.-- Good if you said him. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (i), (m), him, him, him. The letters HIM spell the word him. Push the letters HIM to the side of your letter board.-- Have you pushed the letters HIM to the side of your letter board?
Picture Hat Hit Him A HAT HIT H_M Board	13.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Hat Hit Him. One letter is missing from the word him. Spell the word him on your letter board.-- Have you spelled the word him on your letter board?
A HAT HIT HIM Board	14.	If so, good. What word did you just spell?-- Good if you said him. The letters HIM spell the word him. Read or tell me what words are in the picture.-- Good if you said A Hat Hit Him. Push the letters HIM to the side of your letter board.-- Have you pushed the letters HIM to the side of your letter board?
Picture Cat Hit Him A CAT H_T HIM Board	15.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Cat Hit Him. One letter is missing from the word hit. Spell the word hit on your letter board.-- Have you spelled the word hit on your letter board?
A CAT HIT HIM Board	16.	If so, good. What word did you just spell?-- Good if you said hit. The letters HIT spell the word hit. Read or tell me what words are in the picture.-- Good if you said A Cat Hit Him. Push the letters HIT to the side of your letter board.-- Have you pushed the letters HIT to the side of your letter board?
Picture Pin Hit Him A PIN HIT HI_ Board	17.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Pin Hit Him. One letter is missing from the word him. Spell the word him on your letter board.-- Have you spelled the word him on your letter board?

Slide		
A PIN HIT HIM Board	18.	If so, good. What word did you just spell?-- Good if you said him. The letters HIM spell the word him. Read or tell me what words are in the picture.-- Good if you said A Pin Hit Him. Push the letters HIM to the side of your letter board.-- Have you pushed the letters HIM to the side of your letter board?
Picture Pan Hit Him A P_N HIT HIM Board	19.	If so, good. Read or tell me what words are in the picture.-- Good if you said A Pan Hit Him. One letter is missing from the word pan. Spell the word pan on your letter board.-- Have you spelled the word pan on your letter board?
A PAN HIT HIM Board	20.	If so, good. What word did you just spell?-- Good if you said pan. The letters PAN spell the word pan. Read or tell me what words are in the picture.-- Good if you said A Pan Hit Him. Push the letters PAN to the side of your letter board.-- Have you pushed the letters PAN to the side of your letter board?
IN and HIM Board	21.	If so, good. What words are in the picture?-- Good if you said in and him.
Picture A Hat In A Pan A HAT __ A PAN Board	22.	Spell the word that is missing in the picture.-- Have you spelled the word in on your letter board?
A HAT IN A PAN Board	23.	If so, good. What word did you just spell?-- Good if you said in. Read or tell me what words are in the picture?-- Good if you said A Hat In A Pan. Push the word in to the side of your letter board.-- Have you pushed the word in to the side of your letter board?
Picture A Cat In A Can A CAT __ A CAN Board	24.	If so, good. Spell the word that is missing in the picture.-- Have you spelled the word that is missing?
A CAT IN A CAN Board	25.	If so, good. What word did you just spell?-- Good if you said in. Read or tell me what words are in the picture.-- Good if you said A Cat In A Can. Push the word in to the side of your letter board.-- Have you pushed the word in to the side of your letter board?

Slide		
IN and HIM Board	26.	If so, good. What words are in the picture?-- Good if you said in and him.
Picture A Cat Hit Him A CAT HIT ___ Board	27.	Spell the word that is missing in the picture.-- Have you spelled the word that is missing?
A CAN HIT HIM Board	28.	If so, good. What word did you just spell?-- Good if you said him. Read or tell me what words are in the picture.-- Good if you said A Can Hit Him. Push the word him to the side of your letter board.-- Have you pushed the word him to the side of your letter board?
Picture A Cap Hit Him A CAP HIT ___ Board	29.	If so, good. Spell the word that is missing in the picture.-- Have you spelled the word that is missing?
A CAP HIT HIM Board	30.	If so, good. What word did you just spell?-- Good if you said him. Read or tell me what words are in the picture.-- Good if you read A Cap Hit Him.

LESSON XII

D Board	1.	What is the name of this letter?-- Right if you said D. Every letter has a name and a sound. The sound for the letter D is (d). What is the sound for the letter D?-- Right if you said (d). The sound for the letter D is (d).
D Board	2.	What is the sound of this letter?-- Good if you said (d). The sound for the letter D is (d). What is the sound for the letter D?-- Right if you said (d).
D Board	3.	What is the name of this letter?-- Right if you said D. The sound for the letter D is (d). What is the sound for the letter D?-- Right if you said (d). The sound for the letter D is (d).
D Board	4.	What is the sound of this letter?-- Good if you said (d). The sound for the letter D is (d). What is the sound for the letter D?-- Right if you said (d).

Slide	
Picture Dad	5. This is a dad. We will spell the word dad. Find the letter D. Put the D in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the D.-- Find another letter D. Put this D on your letter board next to the A.-- Have you put the letters DAD on your letter board?
Picture Dad DAD Board	6. If so, good. The letters DAD spell the word dad. What word did you just spell?-- Good if you said dad. dad. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (ae), (d), dad, dad, dad. Push the letters DAD to the side of your letter board.-- Have you pushed the letters DAD to the side of your letter board?
Picture Dad Napping D D CAN NAP Board	7. If so, good. This is a picture of dad. What can dad do?-- Right if you said Dad Can Nap. One letter is missing from the word dad. Spell the word dad on your letter board.-- Have you spelled the word dad on your letter board?
DAD CAN NAP Board	8. If so, good. The letters DAD spell the word dad. What word did you just spell?-- Good if you said dad. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (a), (d), dad, dad, dad. Read or tell me what words are in the picture.-- Good if you read Dad Can Nap. Push the letters DAD to the side of your letter board.-- Have you pushed the letters DAD to the side of your letter board?
Picture Dan	9. If so, good. This is a picture of a boy named Dan. We can spell the word Dan. Find the letter D. Put the D in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the D.-- Find the letter N. Put the N on your letter board next to the A.-- Have you put the letters DAN on your letter board?
Picture Dan DAN Board	10. If so, good. The letters DAN spell the word Dan. What word did you just spell?-- Good if you said Dan. The letters DAN spell the word Dan. Point to your letters on your letter board and say their sounds.--

Slide		
		Good if you said (d), (ae), (n), Dan, Dan, Dan. Push the letters DAN to the side of your letter board.-- Have you pushed the letters DAN to the side of your letter board?
Picture Dan Napping D_N CAN NAP Board	11.	If so, good. This is a picture of Dan. What can Dan do?-- Right if you said Dan Can Nap. One letter is missing from the word Dan. Spell the word Dan on your letter board.-- Have you spelled the word Dan on your letter board?
DAN CAN NAP Board	12.	If so, good. The letters DAN spell the word Dan. What word did you just spell?-- Good if you said Dan. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (ae), (n), Dan. Dan, Dan. Read or tell me what words are in the picture.-- Good if you read Dan Can Nap. Push the letters DAN to the side of your letter board.-- Have you pushed the letters DAN to the side of your letter board?
Picture Dad Tapping DA_ CAN TAP	13.	If so, good. This is a picture of dad. What can dad do?- do?-- Right if you said Dad Can Tap. One letter is missing from the word dad. Spell the word dad on your letter board.-- Have you spelled the word dad on your letter board?
DAD CAN TAP Board	14.	If so, good. What word did you just spell?-- Good if you said dad. Read or tell me what words are in the picture.-- Good if you said Dan Can Tap. Push the letters DAD to the side of your letter board.-- Have you pushed the letters DAD to the side of your letter board?
Picture Dan Tapping DA_ CAN TAP Board	15.	If so, good. This is a picture of Dan. What can Dan do?-- Right if you said Dan Can Tap. One letter is missing from the word Dan. Spell the word Dan on your letter board.-- Have you spelled the word Dan on your letter board?
DAN CAN TAP Board	16.	If so, good. What word did you just spell?-- Good if you said Dan. Read or tell me what words are in the picture.-- Good if you said Dan Can Tap. Push the letters DAN to the side of your letter board.-- Have you pushed the letters DAN to the side of your letter board?

Slide		
HAD Board	17.	This is the word had. We can spell the word had. Find the letter H. Put the letter H in the middle of your letter board.-- Find the letter A. Put the letter A on your letter board next to the H.-- Find the letter D. Put the letter D on your letter board next to the A.-- Have you put the letters HAD on your letter board?
HAD Board	18.	If so, good. The letters HAD spell the word had. What word did you just spell?-- Good if you said had. The letters HAD spell the word had. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (d), had, had, had. The letters HAD spell the word had. Push the letters HAD to the side of your letter board.-- Have you pushed the letters HAD to the side of your letter board?
Picture Dan Had Ham DAN H_D HAM Board	19.	If so, good. This is a picture of Dan. Dan is eating. What is Dan eating?-- Right if you said ham. Dan Had Ham. One letter is missing from the word had. Spell the word had on your letter board.-- Have you spelled the word had on your letter board?
DAN HAD HAM Board	20.	If so, good. What word did you just spell?-- Good if you said had. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (d), had, had, had. Read or tell me what words are in the picture.-- Good if you said Dan Had Ham. Push the letters HAD to the side of your letter board.-- Have you pushed the letters HAD to the side of your letter board?
Picture Tad TAD Board	21.	If so, good. This is a picture of Tad. We can spell the word Tad. Find the letter T. Put the letter T in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the A.-- Have you put the letters TAD on your letter board?
Picture Tad TAD Board	22.	If so, good. What word did you just spell?-- Good if you said Tad. The letters TAD spell the word Tad. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (ae), (d), Tad, Tad, Tad. The letters TAD spell the word Tad. Push the letters TAD to the side of your letter board.-- Have you pushed the letters TAD to the side of your letter board?

Slide		
Picture Tad Had Ham TAD HA_ HAM Board	23.	If so, good. This is a picture of Tad. Tad is eating. What is Tad eating?-- Right if you said ham. Tad Had Ham. One letter is missing from the word had. Spell the word had on your letter board.-- Have you spelled the word had on your letter board?
TAD HAD HAM Board	24.	If so, good. What word did you just spell?-- Good if you said had. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (ae), (d), had, had, had. Read or tell me what words are in the picture.-- Good if you said Tad Had Ham. Push the letters HAD to the side of your letter board. -- Have you pushed the letters HAD to the side of your letter board?
Picture Dad Had A Hat DAD H__ A HAT Board	25.	If so, good. This is a picture of dad. Dad had something. What did dad have?-- Good if you said Dad Had A Hat. Two letters are missing from the word had. Spell the word had on your letter board.-- Have you spelled the word had on your letter board?
DAN HAD A HAT Board	26.	If so, good. What word did you just spell?-- Good if you said had. Read or tell me what words are in the picture.-- Good if you read Dad Had A Hat. Push the letters HAD to the side of your letter board.-- Have you pushed the letters HAD to the side of your letter board?
DAN CAN NAP Board	27.	If so, good. Read or tell me what words are in the picture.-- Good if you read Dan Can Nap
DAD CAN TAP Board	28.	Read or tell me what words are in the picture.-- Good if you read Dan Can Tap.
TAD HAD HAM Board	29.	Read or tell me what words are in the picture.-- Good if you read Tad Had Ham.
DAD HAD A HAT Board	30.	Read or tell me what words are in the picture.-- Good if you read Dad Had A Hat.

LESSON XIII

Slide	
Picture Tip TIP Board	1. This is Tip. Tip is a dog. We can spell the word Tip. Find the letter T. Put the T in the middle of your letter board.-- Find the I. Put the I on your letter board next to the T.-- Find the P. Put the P on your letter board next to the I.-- Have you put the letters TIP on your letter board?
Picture Tip TIP Board	2. If so, good. The letters TIP spell the word Tip. What word did you just spell?-- Good if you said Tip. The letters TIP spell the word Tip. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (i), (p), Tip, Tip, Tip. The letters TIP spell the word Tip. Push the letters TIP to the side of your letter board.-- Have you pushed the letters TIP to the side of your letter board?
Picture Tip Can Nip T_P CAN NIP Board	3. If so, good. This is a picture of Tip. What can Tip do?-- Right if you said Tip Can Nip. One letter is missing from the word Tip. Spell the word Tip on your letter board.-- Have you spelled the word Tip on your letter board?
TIP CAN NIP Board	4. If so, good. What word did you just spell?-- Good if you said Tip. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (i), (p), tip, tip, tip. Read or tell me what words are in the picture.-- Good if you read Tip Can Nip. Push the letters TIP to the side of your letter board. -- Have you pushed the letters TIP to the side of your letter board?
HID Board	5. If so, good. This is the word hid. We can spell the word hid. Find the letter H. Put the H in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the H.-- Find the letter D. Put the D on your letter board next to the I.-- Have you put the letters HID on your letter board?
HID Board	6. If so, good. The letters HID spell the word hid. What word did you just spell?--- Good if you said hid. Point to your letters on your letter board and say their sounds.--Good if you said (h), (i), (d), hid, hid, hid. The letters HID spell the word hid. Push the letters HID to the side of your letter board -- Have you pushed the word hid to the side of your letter board?

Slide		
Picture Tip Hid In A Pan TIP H_D IN A PAN Board	7.	This is a picture of Tip. Tip hid. Where did Tip hide?-- Good if you said Tip Hid In A Pan. One letter is missing from the word hid. Spell the word hid on your letter board.-- Have you spelled the word hid on your letter board?
TIP HID IN A PAN Board	8.	If so, good. What word did you just spell?-- Good if you said hid. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (i), (d), hid, hid, hid. Read or tell me what words are in the picture.-- Good if you read Tip Hid In A Pan. Push the letters HID to the side of your letter board.-- Have you pushed the letters HID to the side of your letter board?
Picture Tip Hid In A Pit TIP H IN A PIT Board	9.	If so, good. This is a picture of Tip. Tip hid. Where did Tip hide?-- Good if you said Tip Hid In A Pit. Two letters are missing from the word hid. Spell the word hid on your letter board.-- Have you spelled the word hid on your letter board?
TIP HID IN A PIT Board	10.	If so, good. What word did you just spell?-- Good if you said hid. Read or tell me what words are in the picture.-- Good if you read Tip Hid In A Pit. Push the letters HID to the side of your letter board. -- Have you pushed the letters HID to the side of your letter board?
Picture Pad PAD Board	11.	If so, good. This is a pad. You can write on a pad. We will spell the word pad. Find the letter P. Put the P on the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the P.-- Find the letter D. Put the D on your letter board next to the A.-- Have you put the letters PAD on your letter board?
PAD Board	12.	If so, good. The letters PAD spell the word pad. What word did you just spell?-- Good if you said pad. The letters PAD spell the word pad. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (ae), (d), pad, pad, pad. Push the letters PAD to the side of your letter board.-- Have you pushed the letters PAD to the side of your letter board?

Slide		
Picture Dad Had A Pad DAD HAD A P_D Board	13.	If so, good. This is a picture of dad. Dad had a pad. What did dad have?-- Right if you said Dad Had A Pad. One letter is missing from the word pad. Spell the word pad on your letter board.-- Have you spelled the word pad on your letter board?
DAD HAD A PAD A PAD Board	14.	If so, good. What word did you just spell?-- Good if you said pad. Point to your letters on your letter board and say their sounds. Good if you said (p), (ae), (d), pad, pad, pad. Read or tell me what words are in the picture.-- Good if you read Dad Had A Pad. Push the letters PAD to the side of your letter board.-- Have you pushed the letters PAD to the side of your letter board?
Picture A P__ HIT DAN Board	15.	If so, good. This is a picture of Dan. A pad hit Dam. What hit Dan? Good if you said A Pad Hit Dan. Two letters are missing from the word pad. Spell the word pad on your letter board.-- Have you spelled the word pad on your letter board?
A PAD HIT DAN Board	16.	If so, good. What word did you just spell?-- Good if you said pad. Read or tell me what words are in the picture.-- Good if you read A Pad Hit Dan. Push the letters PAD to the side of your letter board.-- Have you pushed the letters PAD to the side of your letter board?
Picture Dam DAM Board	17.	If so, good. This is a dam. A dam holds a large amount of water. We will spell the word dam. Find the letter D. Put the D in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the D.-- Find the letter M. Put the M on your letter board next to the A.-- Have you put the letters DAM on your letter board?
DAM Board	18.	If so, good. The letters DAM spell the word dam. What word did you just spell?-- Good if you said dam. The letters DAM spell the word dam. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (ae), (m), dam, dam, dam. Push the letters DAM to the side of your letter board. -- Have you pushed the letters DAM to the side of your letter board?

Slide		
DAM Board	19.	If so, good. Read or tell me what words are in the picture.-- Good if you read a dam and a dad. Spell the word on your letter board that goes with the picture.-- Have you spelled the word on your letter board that goes with the picture?
DAM Board	20.	If so, good. What word did you just spell? Good if you said dam. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (ae), (m), dam, dam, dam. The letters DAM spell the word dam. Push the letters DAM to the side of your letter board.-- Have you pushed the letters DAM to the side of your letter board?
Picture Dam D_ _ Board	21.	If so, good. What is this a picture of?-- Good if you said a dam. Two letters are missing from the word dam. Spell the word dam on your letter board.-- Have you spelled the word dam on your letter board?
DAM Board	22.	If so, good. What word did you just spell?-- Good if you said dam. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (ae), (m), dam, dam, dam. Push the letters DAM to the side of your letter board.-- Have you pushed the letters DAM to the side of your letter board?
Picture Tip T_ _ CAN NIP Board	23.	If so, good. This is a picture of Tip. What can Tip do?-- Right if you said Tip Can Nip. Two letters are missing from the word Tip.-- Spell the word Tip on your letter board.-- Have you spelled the word Tip on your letter board?
TIP CAN NIP Board	24.	If so, good. What word did you just spell?-- Good if you said Tip. Read or tell me what words are in the picture.-- Good if you said Tip Can Nip. Push the letters TIP to the side of your letter board.-- Have you pushed the letters Tip to the side of your letter board?
Picture Tip Hid In A Pan TIP H_ _ IN A PAN Board	25.	If so, good. This is a picture of Tip. Tip hid. Where did Tip hide?-- Good if you said Tip Hid In A Pan. Two letters are missing from the word hid. Spell the word hid on your letter board.-- Have you spelled the word hid on your letter board?

Slide		
TIP HID IN A PAN Board	26.	If so, good. What word did you just spell?-- Good if you said hid. Read the words in the picture.-- Good if you read Tip Hid In A Pan. Push the letters HID to the side of your letter board.-- Have you pushed the letters HID to the side of your letter board?
Picture A Pad Hit Dan A P_ _ HIT DAN Board	27.	If so, good. This is a picture of Dan. A pad hit Dan. What hit Dan?-- Good if you said A Pad Hit Dan. Two letters are missing from the word pad. Spell the word pad on your letter board.-- Have you spelled the word pad on your letter board?
A PAD HIT DAN Board	28.	If so, good. What word did you just spell?-- Good if you said pad. Read the words in the picture.-- Good if you read A Pad Hit Dan. Push the letters PAD to the side of your letter board.-- Have you pushed the letters PAD to the side of your letter board?
Picture Dam D_ _ Board	29.	If so, good. What is this a picture of?-- Good if you said a dam. Two letters are missing from the word dam. Spell the word dam on your letter board.-- Have you spelled the word dam?
DAM Board	30.	If so, good. Read the word you just spelled.-- Good if you read dam.

LESSON XIV

Read the word or words in each picture.

Picture Man MAN Board	1.	Good if you read man.
Picture Cap CAP Board	2.	Good if you read cap.
Picture Map MAP Board	3.	Good if you read map.
Picture Mat MAT Board	4.	Good if you read mat.
Picture Nip NIP Board	5.	Good if you read nip.

Slide		
Picture Pat PAT Board	6.	Good if you read pat.
Picture Tip TIP Board	7.	Good if you read tip.
Picture Dam DAM Board	8.	Good if you read dam.
MAN Board	9.	Good if you read man.
CAP Board	10.	Good if you read cap.
MAP Board	11.	Good if you read map.
MAT Board	12.	Good if you read mat.
NIP Board	13.	Good if you read nip.
PAT Board	14.	Good if you read pat.
TIP Board	15.	Good if you read tip.
DAM Board	16.	Good if you read dam.
Picture A Cat In A Can A CAT IN A CAN Board	17.	Good if you read A Cat In A Can.
Picture A Cap Hit Him A CAP HIT HIM Board	18.	Good if you read A Cap Hit Him.
Picture A Pin In A Pit A PIN IN A PIT Board	19.	Good if you read A Pin In A Pit.
Picture A Pin In A Pan A PIN IN A PAN Board	20	Good if you read A Pin In A Pan.

Slide		
Picture A Cat In A Hat A CAT IN A HAT Board	21.	Good if you read A Cat In A Hat.
Picture A Cat Hit Him A CAT HIT HIM Board	22.	Good if you read A Cat Hit Him
Picture A Pan Hit Him A PAN HIT HIM Board	23.	Good if you read A Pan Hit Him.
Picture Tip Hid In A Pan TIP HID IN A PAN Board	24.	Good if you read Tip Hid In A Pan.
Picture Tip Hid In A Pit TIP HID IN A PIT Board	25.	Good if you read Tip Hid In A Pit.
Picture Tad Had Ham TAD HAD HAM Board	26.	Good if you read Tad Had Ham.
Picture Dad Can Nap DAD CAN NAP Board	27.	Good if you read Dad Can Nap.
Picture Dan Can Nap DAN CAN NAP Board	28.	Good if you read Dan Can Nap.
Picture Dan Can Tap DAN CAN TAP Board	29.	Good if you read Dan Can Tap.

Slide	
Picture Dad Can Tap DAD CAN TAP Board	30. Good if you read Dad Can Tap.
Picture Dan Had Ham DAN HAD HAM Board	31. Good if you read Dan Had Ham.
Picture Dad Had A Pad DAD HAD A PAD Board	32. Good if you read Dad Had A Pad.
Picture A Pad Hit Dan A PAD HIT DAN Board	33. Good if you read A Pad Hit Dan.
A PIN IN A PIT Board	34. Good if you read A Pin In A Pit.
A CAP HIT HIM Board	35. Good if you read A Cap Hit Him.
A PAD HIT DAN Board	36. Good if you read A Pad Hit Dan.
A CAT IN A HAT Board	37. Good if you read A Cat In A Hat.
DAN CAN NAP Board	38. Good if you read Dan Can Nap.
DAD CAN TAP Board	39. Good if you read Dad Can Tap.
TAD HAD HAM Board	40. Good if you read Tad Had Ham.
A PIN IN A PAN Board	41. Good if you read A Pin In A Pan.
A CAT HIT HIM Board	42. Good if you read A Cat Hit Him.

Slide		
TIP HID IN A PIT Board	43.	Good if you read Tip Hid In A Pit.
TIP CAN NIP Board	44.	Good if you read Tip Can Nip.
A PAN HIT HIM Board	45.	Good if you read A Pan Hit Him.
DAN CAN TAP Board	46.	Good if you read Dan Can Tap.
A CAT IN A CAN Board	47.	Good if you read A Cat In A Can.
DAD HAD A PAD Board	48.	Good if you read Dad Had A Pad.
TIP HID IN A PAN Board	49.	Good if you read Tip Hid In A Pan.
DAN HAD HAM Board	50.	Good if you read Dan Had Ham.

LESSON XV

Picture Dad Can Tap _ _ _ _ _ _ _ _ _ Board	1.	This is a picture of Dad. What can Dad do?-- Right if you said Dad Can Tap. Spell the word Dad on your letter board.-- Have you spelled the word Dad on your letter board?
Picture Dad Can Tap DAD _ _ _ - - - Board	2.	If so, good. What word did you just spell?-- Good if you said Dad. Dad Can Tap. Spell the word can on your letter board next to the word Dad.--Remember Dad is a word so we must leave room between Dad and can. Have you spelled the word can on your letter board?
Picture Dad Can Tap DAD CAN _ _ _ Board	3.	If so, good. Did you remember to leave room between Dad and can? Read the words on your letter board.--Good if you read Dan Can Tap. Spell the word tap on your letter board next to the word can.--Remember can is a word and tap is a word so we must leave room between can and tap. Have you spelled the word tap on your letter board?
Picture Dad Can Tap DAD CAN TAP Board	4.	If so, good. Did you remember to leave room between can and tap? Read the words on your letter board.-- Good if you read Dad Can Tap. Push the words Dad Can Tap to the side of your letter board.-- Have you pushed the words Dad Can Tap to the side of your letter board?

Slide		
Picture Dad Can Tap ___ ___ ___ Board	5.	If so, good. What words belong with this picture?-- Good if you said Dan Can Tap. Spell the words Dan Can Tap on your letter board.-- Remember to leave room between each word. Have you spelled the words Dad Can Tap on your letter board?
Picture Dad Can Tap DAD CAN TAP Board	6.	If so, good. Did you remember to leave room between each word? Read the words on your letter board.-- Good if you read Dad Can Tap. Push the words Dad Can Tap to the side of your letter board.-- Have you pushed the words Dad Can Tap to the side of your letter board?
Picture Dan Can Tap ___ ___ ___ Board	7.	If so, good. This is a picture of Dan. What can Dan do?-- Good if you said Dan Can Tap. Spell the word Dan on your letter board.-- Have you spelled the word Dan on your letter board?
Picture Dan Can Tap DAN ___ ___ Board	8.	If so, good. What word did you just spell?-- Good if you said Dan. Dan Can Tap. Spell the word can on your letter board next to the word Dan.-- Remember Dan is a word and can is a word so we must leave room between Dan and can. Have you spelled the word can on your letter board?
Picture Dan Can Tap DAN CAN ___ Board	9.	If so, good. Did you remember to leave room between Dan and can?-- Read the words on your letter board.-- Good if you read Dan Can. What can Dan do? Good if you said Dan Can Tap. Spell the word tap on your letter board next to the word can. Remember can is a word and tap is a word so we must leave room between can and tap. Have you spelled the word tap on your letter board.
Picture Dan Can Tap DAN CAN TAP Board	10.	If so, good. Did you remember to leave room between can and tap? Read the words on your letter board.-- Good if you read Dan Can Tap. Push the words Dan Can Tap to the side of your letter board.-- Have you pushed the words Dan can tap to the side of your letter board?
Picture Dan Can Tap ___ ___ ___ Board	11.	If so, good. What words belong with this picture.-- Good if you said Dan Can Tap. Spell the words Dan can tap on your letter board.--Remember to leave room between each word. Have you spelled the words Dan Can Tap on your letter board?

Slide		
Picture Dan Can Tap DAN CAN TAP Board	12.	If so, good. Did you remember to leave room between each word? Read the words on your letter board?-- Good if you read Dan Can Tap. Push the words Dan Can Tap to the side of your letter board.-- Have you pushed the words Dan Can Tap to the side of your letter board?
Picture Dad Can Tap ___ ___ ___ Board	13.	If so, good. This is a picture of Dad. What can Dad do?-- Right if you said Dad Can Tap. Spell the words Dad Can Tap.-- Remember to leave room between each word. Have you spelled Dad Can Tap?
Picture Dad Can Tap DAD CAN TAP Board	14.	If so, good. Did you remember to leave space between each word? Read the words on your letter board.-- Right if you read Dad Can Tap. Push the words Dad Can Tap to the side of your letter board.-- Have you pushed the words Dad Can Tap to the side of your letter board?
Picture Dad Can Nap ___ ___ ___ Board	15.	If so, good. This is a picture of Dad. What can Dad do?-- Good if you said Dad Can Nap. Spell the words Dad Can Nap on your letter board.-- Remember to leave room between each word. Have you spelled the words Dad Can Nap on your letter board?
Picture Dad Can Nap DAD CAN NAP Board	16.	If so, good. Did you remember to leave room between each word? Read the words on your letter board.-- Good if you read Dad Can Nap. Push the words Dad Can Nap to the side of your letter board.-- Have you pushed the words Dad Can Nap to the side of your letter board?
Picture Dan Can Nap ___ ___ ___ Board	17.	If so, good. This is a picture of Dan. What can Dan do?-- Good if you said Dan Can Nap. Spell the words Dan Can Nap on your letter board.-- Remember to leave space between each word. Have you spelled the words Dan Can Nap on your letter board?
Picture Dan Can Nap DAN CAN NAP Board	18.	If so, good. Did you remember to leave space between each word? Read the words on your letter board.-- Good if you read Dan Can Nap. Push the words Dan Can Nap to the side of your letter board.-- Have you pushed the words Dan Can Nap to the side of your letter board?

Slide		
Picture Dan Can Tap _ _ _ _ _ _ _ _ Board	19.	If so, good. This is a picture of Dan. What can Dan do?-- Good if you said Dan Can Tap. Spell the words Dan Can Tap on your letter board.-- Remember t to leave room between each word. Have you spelled the words Dan Can Tap on your letter board?
Picture Dan Can Tap DAN CAN TAP Board	20.	If so, good. Did you remember to leave space between each word? Read the words on your letter bcard.-- Good if you read Dan Can Tap.

LESSON XVI

Slide		
IT Board	1.	This is the word it. The letters IT spell the word it. Spell the word it on your letter board.-- Have you spelled the word it on your letter board?
IT Board	2.	If so, good. The letters IT spell the word it. What word did you just spell?-- Good if you said it. Point to your letters on your letter board and say their sounds.-- Good if you said (i), (t), it, it, it. The letters IT spell the word it. Push the letters IT to the side of your letter board.-- Have you pushed the letters IT to the side of your letter board?
Picture Dan Hit A Pan DAN HIT A PAN _ Board	3.	This is a picture of Dan. What did Dan do?-- Right if you said Dan Hit A Pan. The word pan is missing. Spell the word pan on your letter board.-- Have you spelled the word pan on your letter board?
DAN HIT A PAN Board	4.	If so, good. What word did you just spell?-- Good if you said pan. Read the words on your letter board. -- Good if you read Dan Hit A Pan. Push the word pan to the side of your letter board.-- Have you pushed the word pan to the side of your letter board?
Picture Dan Hit It (A Pan) DAN HIT _ _ Board	5.	If so, good. This is a picture of Dan. What did Dan do?-- Right if you said Dan Hit A Pan. We can use the word it to mean pan. The word it is missing. Spell the word it on your letter board.-- Have you spelled the word it on your letter board?
Picture Dan Hit It (A Pan) DAN HIT IT Board	6.	If so, good. What word did you just spell?-- Good if you said it. Read the words on your letter board.-- Good if you read Dan Hit It. What word does the word it mean?-- Good if you said pan. Push the word it to the side of your letter board.-- Have you pushed the word it to the side of your letter board?

Slide		
Picture Dan Had Ham DAN HAD A _ _ _ Board	7.	If so, good. This is a picture of Dan. What did Dan have?-- Right if you said Dan Had A Ham. The word ham is missing from the picture. Spell the word ham on your letter board.-- Have you spelled the word ham on your letter board?
Picture Dan Had A Ham DAN HAD A HAM Board	8.	If so, good. What word did you just spell?-- Good if you said ham. Read the words on your letter board.-- Good if you read Dan Had A Ham. Push the word ham to the side of your letter board.-- Have you pushed the word ham to the side of your letter board?
Picture Dan Hid It (A Ham) DAN HID _ _ Board	9.	If so, good. This is a picture of Dan. What did Dan do?-- Right if you said Dan Hid A Ham. We can use the word it to mean ham. The word it is missing. Spell the word it on your letter board.-- Have you spelled the word it on your letter board?
Picture Dan Hid It (A Ham) DAN HID IT Board	10.	If so, good. What word did you just spell?-- Good if you said it. Read the words on your letter board. -- Good if you read Dan Hid It. What word does the word it mean?-- Good if you said ham. Push the word it to the side of your letter board.-- Have you pushed the word it to the side of your letter board?
Picture Dan Had A Pin DAN HAD A _ _ _ Board	11.	If so, good. This is a picture of Dan. What did Dan have?-- Good if you said Dan Had A Pin. The word pin is missing. Spell the word pin on your letter board.-- Have you spelled the word pin on your letter board?
Picture Dan Had A Pin DAN HAD A PIN Board	12.	If so, good. What word did you just spell?-- Good if you said pin. Read the words on your letter board.-- Good if you read Dan Had A Pin. Push the word pin to the side of your letter board.-- Have you pushed the word pin to the side of your letter board?
Picture Dan Hid It (A Pin) DAN HID _ _ Board	13.	If so, good. This is a picture of Dan. What did Dan do?-- Good if you said Dan Hid A Pin. We can use it to mean pin. The word it is missing. Spell the word it on your letter board.-- Have you spelled the word it on your letter board?

Slide		
Picture Dan Hid It (A Pin) DAN HID IT Board	14.	If so, good. What word did you just spell?-- Good if you said it. Read the words in the picture.-- Good if you read Dan Hid It. What does the word it mean? -- Good if you said pin. Push the word it to the side of your letter board.-- Have you pushed the word it to the side of your letter board?
Picture Dan Hit A Pan DAN HIT A PAN Board	15.	If so, good. Read the words in the picture.-- Good if you read Dan Hit A Pan.
Picture Dan Hit It (A Pan) DAN HIT IT Board	16.	Read the words in the picture.-- Good if you read Dan Hit It. What word does it mean?-- Good if you said pan.
Picture Dan Had A Ham DAN HAD A HAM Board	17.	Read the words in the picture.-- Good if you read Dan Had A Ham.
Picture Dan Hid It (A Ham) DAN HID IT Board	18.	Read the words in the picture.-- Good if you read Dan Hit It. What word does it mean?-- Good if you said ham.
Picture Dan Had A Pin DAN HAD A PIN Board	19.	Read the words in the picture.-- Good if you read Dan Had A Pin.
Picture Dan Hid It DAN HID IT Board	20.	Read the words in the picture.-- Good if you read Dan Hid It. What word does it mean?-- Good if you said pin.
R Board	21.	What is the name of this letter?-- Right if you said R. Every letter of the alphabet has a name and a sound. The sound for the letter R is (r). What is the sound of the letter R?-- Good if you said (r). The sound of the letter R is (r).

Slide		
R Board	22.	What is the sound of this letter?-- Good if you said (r). The sound of the letter R is (r). What is the sound of the letter R?-- Good if you said (r).
R Board	23.	What is the name of this letter?-- Right if you said R. The sound for the letter R is (r). What is the sound of the letter R?-- Good if you said (r). The sound of the letter R is (r).
R Board	24.	What is the sound of this letter?-- Good if you said (r). The sound of the letter R is (r). What is the sound of the letter R?-- Good if you said (r).
Picture Rat	25.	This is a picture of a rat. A rat is a small animal. We can spell the word rat. Find the letter R. Put the R in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the R.-- Find the letter T. Put the T on your letter board next to the A.-- Have you put the letters RAT on your letter board?
Picture Rat RAT Board	26.	If so, good. The letters RAT spell the word rat. What word did you just spell?-- Good if you said rat. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (t), rat, rat, rat. The letters RAT spell the word rat. Push the letters RAT to the side of your letter board.-- Have you pushed the letters RAT to the side of your letter board?
Picture Rat R_ _ Board	27.	If so, good. This is a picture of a rat. Two letters are missing from the word rat. Spell the word rat on your letter board.-- Have you spelled the word rat on your letter board?

Slide		
RAT Board	28.	If so, good. What word did you just spell?-- Good if you said rat. The letters RAT spell the word rat. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (t), rat, rat, rat. Push the letters RAT to the side of your letter board.-- Have you pushed the letters RAT to the side of your letter board?
Picture Rat	29.	This is a picture of a rat. Spell the word rat on your letter board.-- Have you spelled the word rat on your letter board?
RAT Board	30.	If so, good. What word did you just spell?-- Good if you said rat.

LESSON XVII

Picture Rat RAT Board	1.	What is this a picture of?-- Right if you said rat. Spell the word rat on your letter board.-- Have you spelled the word rat on your letter board?
RAT Board	2.	If so, good. What word did you just spell?-- Good if you said rat. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (t), rat, rat, rat. Push the word rat to the side of your letter board.-- Have you pushed pushed the word rat to the side of your letter board?
Picture Ram	3.	If so, good. This is a ram. A ram is an animal. We will spell the word ram. Find the letter R. Put the R in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the R.-- Find the letter M. Put the M on your letter board next to the A.-- Have you put the letters RAM on your letter board?

Slide		
RAM Board	4.	If so, good. The letters RAM spell the word ram. What word did you just spell?-- Good if you said ram. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (m), ram, ram, ram. Push the letters RAM to the side of your letter board.-- Have you pushed the letters RAM to the side of your letter board?
Picture Ram R_ _ Board	5.	If so, good. This is a ram. Two letters are missing from the word ram. Spell the word ram on your letter board.-- Have you spelled the word ram on your letter board?
RAM Board	6.	If so, good. What word did you just spell?-- Good if you said ram. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (m), ram, ram, ram. Push the letters RAM to the side of your letter board.-- Have you pushed the letters RAM to the side of your letter board?
RAN Board	7.	If so, good. This is the word ran. We can spell the word ran. Find the letter R. Put the R in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the R.-- Find the letter N. Put the N on your letter board next to the A.-- Have you put the letters RAN on your letter board?
RAN Board	8.	If so, good. The letters RAN spell the word ran. What word did you just spell?-- Good if you said ran. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (n), ran, ran, ran. Push the letters RAN to the side of your letter board.-- Have you pushed the letters RAN to the side of your letter board?
Picture A Rat Ran A RAT _ _ _ Board	9.	If so, good. This is a picture of a rat. A Rat Ran. What did a rat do?-- Right if you said ran. One letter is missing from the word ran. Spell the word ran on your letter board.-- Have you spelled the word ran on your letter board?
A RAT RAN Board	10.	If so, good. What word did you just spell?-- Good if you said ran. Point to your letters on your letter board and say their sounds.-- Good if you said (r), (ae), (n), ran, ran, ran. Read the words in the picture.-- Good if you read A Rat Ran. Push the word ran to the side of your letter board.-- Have you pushed the word ran to the side of your letter board?

Slide		
Picture A Cat Ran A CAT RA_ Board	11.	If so, good. This is a picture of a cat. A Cat Ran. What did a cat do? Right if you said ran. One letter is missing from the word ran. Spell the word ran on your letter board.-- Have you spelled the word ran on your letter board?
A CAT RAN Board	12.	If so, good. What word did you just spell?-- Good if you said ran. Read the words in the picture.-- Good if you read A Cat Ran. Push the word ran to the side of your letter board.-- Have you pushed the word ran to the side of your letter board?
Picture A Ram Ran A RAM R_ _ Board	13.	If so, good. This is a picture of a ram. A Ram Ran. What did a ram do? Right if you said ran. Two letters are missing from the word ran. Spell the word ran on your letter board.-- Have you spelled the word ran on your letter board?
A RAM RAN Board	14.	If so, good. What word did you just spell?-- Good if you said ran. Read the words in the picture.-- Good if you read A Ram Ran. Push the word ran to the side of your letter board.-- Have you pushed the word ran to the side of your letter board?
Picture Dan Hit A Pan _ _ _ _ _ _ _ _ Board	15.	If so, good. This is a picture of Dan. What did Dan hit?-- Good if you said Dan Hit A Pan or it. Spell the word Dan on your letter board.-- Have you spelled the word Dan on your letter board?
Picture Dan Hit A Pan DAN _ _ _ _ _ Board	16.	If so, good. What word did you just spell?-- Good if you said Dan. Spell the word hit on your letter board next to the word Dan. Remember Dan is a word and hit is a word so we must leave room between Dan and hit. Have you spelled the word hit on your letter board?
Picture Dan Hit A Pan DAN HIT _ _ Board	17.	If so, good. Did you remember to leave room between Dan and hit? Read the words on your letter board.-- Good if you read Dan hit. What did Dan hit?-- Good if you said a pan or it. Spell the word it on your letter board.-- Remember hit is a word and it is a word so we must leave room between hit and it. Have you spelled the word it on your letter board?

Slide		
Picture Dan Hit A Pan DAN HIT IT Board	18.	If so, good. Did you remember to leave room between hit and it?--Read the words on your letter board.--Good if you read Dan Hit It. Push the words Dan Hit It to the side of your letter board.-- Have you pushed the words Dan Hit It to the side of your letter board?
Picture Dan Hit A Pan _ _ _ _ _ _ _ _ Board	19.	If so, good. This is a picture of Dan. Dan Hit A Pan or Dan Hit It. Spell the words Dan Hit It on your letter board.-- Remember to leave room between each word. Have you spelled the word Dan Hit It on your letter board?
Picture Dan Hit A Pan DAN HIT IT Board	20.	If so, good. Did you remember to leave room between each word? Read the words on your letter board.--Good if you read Dan Hit It. What does it mean?--Good if you said a pan. Push the words Dan Hit It to the side of your letter board.-- Have you pushed the words Dan Hit It to the side of your letter board?
Picture A Ram Ran _ _ _ _ _ _ _ Board	21.	If so, good. This is a picture of a ram. A Ram Ran. Spell the word A on your letter board.-- Have you spelled the word A on your letter board?
Picture A Ram Ran A _ _ _ _ _ _ Board	22.	If so, good. What word did you just spell?-- Good if you said A. A Ram Ran. Spell the word ram on your letter board next to the word A. Remember A is a word and ram is a word so we must leave room between A and ram. Have you spelled the word ram on your letter board?
Picture A Ram Ran A RAM _ _ _ Board	23.	If so, good. Did you remember to leave room between A and ram? Read the words on your letter board.--Good if you read a ram. What did a ram do?-- Good if you said ran. A Ram Ran. Spell the word ran on your letter board.-- Remember ram is a word and ran is a word so we must leave room between ram and ran. Have you spelled the word ran on your letter board?
Picture A Ram Ran A RAM RAN Board	24.	If so, good. Did you remember to leave room between ram and ran? Read the words on your letter board.--Good if you read A Ram Ran. Push the words A Ram Ran to the side of your letter board?-- Have you pushed the words A Ram Ran to the side of your letter board?

Slide		
Picture A Ram Ran _ _ _ _ _ _ Board	25.	If so, good. This is a picture of a ram. What did a ram do?-- Good if you said A Ram Ran. Spell the words A Ram Ran on your letter board.-- Remember to leave space between each word.-- Have you spelled the words A Ram Ran on your letter board?
Picture A Ram Ran A RAM RAN Board	26.	If so, good. Did you remember to leave room between each word? Read the words on your letter board.-- Good if you read A Ram Ran.

LESSON XVIII

E Board	1.	What is the name of this letter?-- Right if you said E. Every letter has a name and a sound. The sound for the letter E is (e). What is the sound for the letter E.-- Good if you said (e). The sound for the letter E is (e).
E Board	2.	What is the sound of this letter?-- Good if you said (e). The sound for the letter E is (e). What is the sound for the letter E?-- Good if you said (e). The sound for the letter E is (e).
E Board	3.	What is the name of this letter?-- Right if you said E. The sound for the letter E is (e). What is the sound for the letter E?-- Good if you said (e). The sound for the letter E is (e).
E Board	4.	What is the sound of this letter?-- Good if you said (e). The sound for the letter E is (e). What is the sound for the letter E?-- Good if you said (e). The sound for the letter E is (e).
Picture Pen	5.	This is a pen. We can write with a pen. We will spell the word pen. Find the letter P. Put the P in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the P.-- Find the letter N. Put the N on your letter board next to the E.-- Have you put the letters PEN on your letter board?
Picture Pen PEN Board	6.	If so, good. The letters PEN spell the word pen. What word did you just spell?-- Good if you said pen. Point to your letters on your letter board and say their sounds. -- Good if you said (p), (e), (n), pen, pen, pen. The letters PEN spell the word pen. Push the letters PEN to the side of your letter board.-- Have you pushed the letters PEN to the side of your letter board?

Slide		
Picture Pen PE_ Board	7.	If so, good. This is a pen. One letter is missing from the word pen. Spell the word pen on your letter board.-- Have you spelled the word pen on your letter board?
Picture Pen PEN Board	8.	If so, good. What word did you just spell?-- Good if you said pen. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (e), (n), pen, pen, pen. The letters PEN spell the word pen. Push the letters PEN to the side of your letter board.-- Have you pushed the letters PEN to the side of your letter board?
Picture A Pen In A Pan A P__ IN A PAN Board	9.	If so, good. This is a pen. Where is the pen?-- Good if you said A Pen In A Pan. Two letters are missing from the word pen. Spell the word pen on your letter board.-- Have you spelled the word pen on your letter board?
A PEN IN A PAN Board	10.	If so, good. What word did you just spell?-- Good if you said pen. Read the words in the picture.-- Good if you read A Pen In A Pan. Push the word pen to the side of your letter board.-- Have you pushed the word pen to the side of your letter board?
Picture Hen	11.	If so, good. This is a hen. A hen is a chicken. We will spell the word hen. Find the letter H. Put the H in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the H.-- Find the letter N. Put the N on your letter board next to the E.-- Have you put the letters HEN on your letter board?
Picture Hen HEN Board	12.	If so, good. The letters HEN spell the word hen. What word did you just spell?-- Good if you said hen. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (e), (n), hen, hen, hen. The letters HEN spell the word hen. Push the letters HEN to the side of your letter board.-- Have you pushed the letters HEN to the side of your letter board?
Picture Hen _EN Board	13.	If so, good. This is a hen. One letter is missing from the word hen. Spell the word hen on your letter board. -- Have you spelled the word hen on your letter board?

Slide		
HEN Board	14.	If so, good. What word did you just spell?-- Good if you said hen. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (e), (n), hen, hen, hen. The letters HEN spell the word hen. Push the letters HEN to the side of your letter board.-- Have you pushed the letters HEN to the side of your letter board?
Picture A Hen In A Pan A _ _N IN A PAN Board	15.	If so, good. This is a hen. Where is the hen?-- Good if you said A Hen In A Pan. Two letters are missing from the word hen. Spell the word hen on your letter board.-- Have you spelled the word hen on your letter board?
A HEN IN A PAN Board	16.	If so, good. What word did you just spell?-- Good if you said hen. Read the words in the picture.-- Good if you read A Hen In A Pan. Push the word hen to the side of your letter board.-- Have you pushed the word hen to the side of your letter board?
Picture Pet	17.	If so, good. This is a pet. A pet can be a good animal friend. We will spell the word pet. Find the letter P. Put the P in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the P.-- Find the letter T. Put the T on your letter board next to the E.-- Have you put the letters PET on your letter board?
Picture Pet PET Board	18.	If so, good. The letters PET spell the word pet. What word did you just spell?-- Good if you said pet. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (e), (t), pet, pet, pet. The letters PET spell the word pet. Push the letters PET to the side of your letter board. -- Have you pushed the letters PET to the side of your letter board?
Picture Pet PE_ Board	19.	If so, good. This is a pet. One letter is missing from the word pet. Spell the word pet on your letter board.-- Have you spelled the word pet on your letter board?
Picture Pet PET Board	20.	If so, good. What word did you just spell?-- Good if you said pet. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (e), (t), pet, pet, pet. The letters PET spell the word pet. Push the letters PET to the side of your letter board.-- Have you pushed the letters PET to the side of your letter board?

Slide		
Picture A Pet In A Pit A P_ _ IN A PIT Board	21.	If so, good. This is a pet. Where is the pet?-- Good if you said A Pet In A Pit. Two letters are missing from the word pet. Spell the word pet on your letter board.-- Have you spelled the word pet on your letter board?
A PET IN A PIT Board	22.	If so, good. What word did you just spell?-- Good if you said pet. Read the words in the picture.-- Good if you read A Pet In A Pit. Push the word pet to the side of your letter board.-- Have you pushed the word pet to the side of your letter board?
Picture Net	23.	If so, good. This is a net. We will spell the word net. Find the letter N. Put the N in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the N.-- Find the letter T. Put the T on your letter board next to the E.-- Have you put the letters NET on your letter board?
Picture Net NET Board	24.	If so, good. The letters NET spell the word net. What word did you just spell?-- Good if you said net. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (e), (t), net, net, net. The letters NET spell the word net. Push the letters NET to the side of your letter board.-- Have you pushed the letters NET to the side of your letter board?
Picture A Pen In A Net A PEN IN A _ET Board	25.	If so, good. This is a net. What is in the net?-- Good if you said A Pen In A Net. One letter is missing from the word net. Spell the word net on your letter board.-- Have you spelled the word net on your letter board?
A PEN IN A NET Board	26.	If so, good. What word did you just spell?-- Good if you said net. Point to your letters on your letter board and say their sounds.-- Good if you said (n), (e), (t), net, net, net. Read the words in the picture.-- Good if you read A Pen In A Net. Push the word net to the side of your letter board.-- Have you pushed the word net to the side of your letter board?
Picture A Hen In A Net A HEN IN A _ _T Board	27.	If so, good. This is a net. What is in the net?-- Good if you said A Hen In A Net. Two letters are missing from the word net. Spell the word net on your letter board.-- Have you spelled the word net on your letter board?

Slide		
A HEN IN A NET Board	28.	If so, good. What word did you just spell?-- Good if you said net. Read the words in the picture.-- Good if you read A Hen In A Net. Push the word net to to the side of your letter board.-- Have you pushed the word net to the side of your letter board?
Picture A Pet In A Net A PET IN A _ _ _ Board	29.	If so, good. This is a net. What is in the net?-- Good if you said A Pet In A Net. Spell the word net on your letter board.-- Have you spelled the word net on your letter board?
A PET IN A NET Board	30.	If so, good. What word did you just spell?-- Good if you said net. Read the words in the picture.-- Good if you read A Pet In A Net.

LESSON XIX

Picture Men	1.	This is a picture of men. We will spell the word men. Find the letter M. Put the M in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the M.-- Find the letter N. Put the N on your letter board next to the E.-- Have you put the letters MEN on your letter board?
Picture Men MEN Board	2.	If so, good. The letters MEN spell the word men. What word did you just spell?-- Good if you said men. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (e), (n), men, men, men. The letters MEN spell the word men. Push the letters MEN to the side of your letter board.-- Have you pushed the letters MEN to the side of your letter board?
Picture Men ME_ Board	3.	If so, good. This is a picture of men. One letter is missing from the word men. Spell the word men on your letter board.-- Have you spelled the word men on your letter board?

Slide		
Picture Men MEN Board	4.	If so, good. What word did you just spell?-- Good if you said men. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (e), (n), men, men, men. The letters MEN spell the word men. Push the letters MEN to the side of your letter board.-- Have you pushed the letters MEN to the side of your letter board?
Picture Men In A Net M_ _ IN A NET Board	5.	If so, good. This is a picture of men. Where are the men? Good if you said Men In A Net. Two letters are missing from the word men. Spell the word men on your letter board.-- Have you spelled the word men on your letter board?--
Picture Men In A Net MEN IN A NET Board	6.	If so, good. What word did you just spell?-- Good if you said men. Read the words in the picture.-- Good if you read Men In A Net. Push the word men to the side of your letter board.-- Have you pushed the word men to the side of your letter board?
Picture Ed	7.	If so, good. This is a picture of Ed. Ed is a man. We will spell the word Ed. Find the letter E. Put the E in the middle of your letter board.-- Find the letter D. Put the D on your letter board next to the E.-- Have you put the letters ED on your letter board?
Picture Ed ED Board	8.	If so, good. The letters ED spell the word Ed. What word did you just spell?-- Good if you said Ed. Point to your letters on your letter board and say their sounds.-- Good if you said (e), (d), Ed, Ed, Ed. The letters ED spell the word Ed. Push the letters ED to the side of your letter board.-- Have you pushed the letters ED to the side of your letter board?
Picture Ed _D Board	9.	If so, good. This is a picture of Ed. One letter is missing from the word Ed. Spell the word Ed on your letter board.-- Have you spelled the word Ed on your letter board?
Picture Ed ED Board	10.	If so, good. What word did you just spell?-- Good if you said Ed. The letters ED spell the word Ed. Point to your letters on your letter board and say their sounds.-- Good if you said (e), (d), Ed, Ed, Ed. The letters ED spell the word Ed. Push the letters ED to the side of your letter board.-- Have you pushed the letters ED to the side of your letter board?

Slide		
Picture Ted	11.	If so, good. This is a picture of Ted. Ted is a man. We will spell the word Ted. Find the letter T. Put the T in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the T.-- Find the letter D. Put the D on your letter board next to the E.-- Have you put the letters TED on your letter board?
Picture Ted TED Board	12.	If so, good. The letters TED spell the word Ted. What word did you just spell?-- Good if you said Ted. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (e), (d), Ted, Ted, Ted. The letters TED spell the word Ted. Push the letters TED to the side of your letter board.-- Have you pushed the letters TED to the side of your letter board?
Picture Ted _ED Board	13.	This is a picture of Ted. One letter is missing from the word Ted. Spell the word Ted on your letter board.-- Have you spelled the word Ted on your letter board?
Picture Ted TED Board	14.	If so, good. What word did you just spell?-- Good if you said Ted. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (e), (d), Ted, Ted, Ted. The letters TED spell the word Ted. Push the letters TED to the side of your letter board.-- Have you pushed the letters TED to the side of your letter board?
MET Board	15.	If so, good. This is the word met. We will spell the word met. Find the letter M. Put the M in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the M.-- Find the letter T. Put the T on your letter board next to the E.-- Have you put the letters MET on your letter board?
MET Board	16.	If so, good. The letters MET spell the word met. What word did you just spell?-- Good if you said met. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (e), (t), met, met, met. The letters MET spell the word met. Push the letters MET to the side of your letter board. -- Have you pushed the letters MET to the side of your letter board?

Slide		
Picture Men Met MEN ME_ Board	17.	If so, good. This is a picture of men. Men Met. One letter is missing from the word met. Spell the word met on your letter board.-- Have you spelled the word met on your letter board?
Picture Men Met MEN MET Board	18.	If so, good. What word did you just spell?-- Good if you said met. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (e), (t), met, met, met. Read the words in the picture.-- Good if you read Men Met. Push the word met to the side of your letter board.-- Have you pushed the word met to the side of your letter board?
Picture Dan Met Ed DAN M__ ED Board	19.	If so, good. This is a picture of Dan and Ed. Dan and Ed met. Dan Met Ed. Two letters are missing from the word met. Spell the word met on your letter board.-- Have you spelled the word met on your letter board?
DAN MET ED Board	20.	If so, good. What word did you just spell?-- Good if you said met. Read the words in the picture.-- Good if you read Dan Met Ed. Push the word met to the side of your letter board.-- Have you pushed the word met to the side of your letter board?
Picture Dan Met Ted DAN MET T_ _ Board	21.	If so, good. This is a picture of Dan and Ted. Dan Met Ted. Two letters are missing from the word Ted. Spell the word Ted on your letter board.-- Have you spelled the word Ted on your letter board?
DAN MET TED Board	22.	If so, good. What word did you just spell?-- Good if you said Ted. Read the words in the picture.-- Good if you read Dan Met Ted. Push the word Ted to the side of your letter board.-- Have you pushed the word Ted to the side of your letter board?
Picture Ted Met Ed TED MET _ _ Board	23.	If so, good. This is a picture of Ted and Ed. Ted Met Ed. Spell the word Ed on your letter board.-- Have you spelled the word Ed on your letter board?
TED MET ED Board	24.	If so, good. What word did you just spell?-- Good if you said Ed. Read the words in the picture.-- Good if you read Ted Met Ed. Push the word Ed to the side of your letter board.-- Have you pushed the word Ed to the side of your letter board?

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Picture Men In A Net MEN IN A NET Board	25.	If so, good. Read the words in the picture.-- Good if you read Men In A Net.
Picture A Hen In A Net A HEN IN A NET Board	26.	Read the words in this picture.-- Good if you read A Hen In A Net.
Picture Hen In A Pan A HEN IN A PAN Board	27.	Read the words in this picture.-- Good if you read A Hen In A Pan.
Picture Pen In A Pan A PEN IN A PAN Board	28.	Read the words in this picture.-- Good if you read A Pen In A Pan.
Picture A Pet In A Pit A PET IN A PIT Board	29.	Read the words in this picture. Good if you read A Pet In A Pit.
Picture Ted Met Ed TED MET ED Board	30.	Read the words in this picture.-- Good if you read Ted Met Ed.

LESSON XX

F Board	1.	What is the name of this letter?-- Right if you said F. Every letter has a name and a sound.-- The sound for the letter F is (f). What is the sound for the letter F?-- Good if you said (f). The sound for the letter F is (f).
F Board	2.	What is the sound of this letter?-- Good if you said (f). The sound for the letter F is (f). What is the sound for the letter F?-- Good if you said (f). The sound for the letter F is (f).
F Board	3.	What is the name of this letter?-- Right if you said F. The sound for the letter F is (f). What is the sound for the letter F?-- Good if you said (f). The sound for the letter F is (f).

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F Board	4.	What is the sound of this letter?-- Good if you said (f). The sound for the letter F is (f). What is the sound for the letter F?-- Good if you said (f). The sound for the letter F is (f).
Picture Fan	5.	This is a fan. We will spell the word fan. Find the letter F. Put the F in the middle of your letter board.-- Find the letter A. Put the A on the letter board next to the F. Find the letter N. Put the N on your letter board next to the A.-- Have you put the letters FAN on your letter board?
Picture Fan FAN Board	6.	If so, good. The letters FAN spell the word fan. What word did you just spell?-- Good if you said fan. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (ae), (n), fan, fan, fan. The letters FAN spell the word fan. Push the letters FAN to the side of your letter board.-- Have you pushed the letters FAN to the side of your letter board?
Picture Fan _AN Board	7.	If so, good. This is a fan. One letter is missing from the word fan. Spell the word fan on your letter board.-- Have you spelled the word fan on your letter board?
Picture Fan FAN Board	8.	If so, good. What word did you just spell?-- Good if you said fan. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (ae), (n), fan, fan, fan. The letters FAN spell the word fan. Push the letters FAN to the side of your letter board.-- Have you pushed the letters FAN to the side of your letter board?
Picture A Fan In A Pan A _ _N IN PAN Board	9.	If so, good. This is a fan. Where is the fan? Good if you said A Fan In A Pan. Two letters are missing from the word fan. Spell the word fan on your letter board.-- Have you spelled the word fan on your letter board?
A FAN IN A PAN Board	10.	If so, good. What word did you just spell?-- Good if you said fan. Read the words in the picture.-- Good if you read A Fan In A Pan. Push the word fan to the side of your letter board.-- Have you pushed the word fan to the side of your letter board?

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Picture Fin	11.	This is a fin. A fin is part of a fish. We will spell the word fin. Find the letter F. Put the F in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the F.-- Find the letter N. Put the N on your letter board next to the I.-- Have you put the letters FIN on your letter board?
Picture Fin FIN Board	12.	If so, good. The letters FIN spell the word fin. What word did you just spell.-- Good if you said fin. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (i), (n), fin, fin, fin. The letters FIN spell the word fin. Push the letters FIN to the side of your letter board. -- Have you pushed the letters FIN to the side of your letter board?
Picture Fin _IN Board	13.	If so, good. This is a fin. One letter is missing from the word fin. Spell the word fin on your letter board.-- Have you spelled the word fin on your letter board?
Picture Fin FIN Board	14.	If so, good. What word did you just spell?-- Good if you said fin. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (i), (n), fin, fin, fin. The letters FIN spell the word fin. Push the letters FIN to the side of your letter board.-- Have you pushed the letters FIN to the side of your letter board?
Picture A Fin In A Net A __N IN A NET Board	15.	If so, good. This is a fin. Where is the fin?-- Good if you said A Fin In A Net. Two letters are missing from the word fin.-- Spell the word fin on your letter board.-- Have you spelled the word fin on your letter board?
A FIN IN A NET Board	16.	If so, good. What did you just spell?-- Good if you said fin. Read the words in the picture.-- Good if you read A Fin In A Net. Push the word fin to the side of your letter board.-- Have you pushed the word fin to the side of your letter board?
FAT	17.	This is the word fat. We will spell the word fat. Find the letter F. Put the F in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the F.-- Find the letter T. Put the T on your letter board next to the A.-- Have you put the letters FAT on your letter board?

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FAT Board	18.	If so, good. The letters FAT spell the word fat. What word did you just spell?-- Good if you said fat. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (ae), (t), fat, fat, fat. The letters FAT spell the word fat. Push the letters FAT to the side of your letter board.-- Have you pushed the letters FAT to the side of your letter board?
Picture A Fat Man A F_T MAN Board	19.	If so, good. This is a fat man. One letter is missing from the word fat. Spell the word fat on your letter board.-- Have you spelled the word fat on your letter board?
A FAT MAN Board	20.	If so, good. What word did you just spell?-- Good if you said fat. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (ae), (t), fat, fat, fat. Read the words in the picture.-- Good if you read A Fat Man. Push the word fat to the side of your letter board.-- Have you pushed the word fat to the side of your letter board?
Picture A Fat Hen A F_ _HEN Board	21.	If so, good. This is a fat hen. Two letters are missing from the word fat. Spell the word fat on your letter board.-- Have you spelled the word fat on your letter board?
A FAT HEN Board	22.	If so, good. What word did you just spell?-- Good if you said fat. Read the words in the picture.-- Good if you read A Fat Hen. Push the word fat to the side of your letter board.-- Have you pushed the word fat to the side of your letter board?
FED Board	23.	If so, good. This is the word fed. We will spell the word fed. Find the letter F. Put the F in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the F.-- Find the letter D. Put the D on your letter board next to the E.-- Have you put the letters FED on your letter board?
FED Board	24.	If so, good. The letters FED spell the word fed. What word did you just spell?-- Good if you said fed. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (e),

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		(d), fed, fed, fed. The letters FED spell the word fed, Push the letters FED to the side of your letter board.-- Have you pushed the letters FED to the side of your letter board?
Picture Ted Fed A Hen TED FE_ A HEN Board	25.	If so, good. This is Ted. What did Ted do?-- Good if you said Ted Fed A Hen. One letter is missing from the word fed. Spell the word fed on your letter board.-- Have you spelled the word fed on your letter board?
TED FED A HEN Board	26.	If so, good. What word did you just spell?-- Good if you said fed. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (e), (d), fed, fed, fed. Read the words in the picture.-- Good if you read Ted Fed A Hen. Push the word fed to the side of your letter board.-- Have you pushed the word fed to the side of your letter board?
Picture Ted Fed A Fat Rat TED F_ _ A FAT RAT Board	27.	If so, good. This is Ted. What did Ted do?-- Good if you said Ted Fed A Fat Rat. Two letters are missing from the word fed. Spell the word fed on your letter board.-- Have you spelled the word fed on your letter board?
TED FED A FAT RAT Board	28.	If so, good. What word did you just spell?-- Good if you said fed. Read the words in the picture.-- Good if you read Ted Fed A Fat Rat. Push the word fed to the side of your letter board.-- Have you pushed the word fed to the side of your letter board?
Picture A Fan In A Can A FAN IN A CAN Board	29.	If so, good. Read the words in the picture.-- Good if you read A Fan In A Can.
Picture A Pin In A Fin A PIN IN A FIN Board	30.	Read the words in the picture.-- Good if you read A Pin In A Fin.

LESSON XXI

O Board	1.	What is the name of this letter?-- Right if you said O. Every letter has a name and a sound. The sound for the letter O is (o). What is the sound

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	for the letter O?-- Good if you said (o). The sound for the letter O is (o).
O Board	2. What is the sound of this letter?-- Good if you said (o). The sound for the letter O is (o). What is the sound for the letter ?-- Good if you said (o). The sound for the letter O is (o).
O Board	3. What is the name of this letter?-- Right if you said O. The sound for the letter O is (o). What is the sound for the letter O? Good if you said (o). The sound for the letter O is (o).
O Board	4. What is the sound of this letter?-- Good if you said (o). What is the sound for the letter O?-- Good if you said (o). The sound for the letter O is (o).
Picture Pot	5. This is a pot. Flowers grow in a pot. We will spell the word pot. Find the letter P. Put the P in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the P.-- Find the letter T. Put the T on your letter board next to the O.-- Have you put the letters POT on your letter board?
Picture Pot POT Board	6. If so, good. The letters POT spell the word pot. What word did you just spell?-- Good if you said pot. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (o), (t), pot, pot, pot. The letters POT spell the word pot. Push the letters POT to the side of your letter board. -- Have you pushed the letters POT to the side of your letter board?
Picture Pot P_T Board	7. If so, good. This is a pot. One letter is missing from the word pot. Spell the word pot on your letter board.-- Have you spelled the word pot on your letter board?
Picture Pot POT Board	8. If so, good. What word did you just spell?-- Good if you said pot. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (o), (t), pot, pot, pot. The letters POT spell the word pot. Push the letters POT to the side of your letter board.-- Have you pushed the letters POT to the side of your letter board?

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Picture Pot P _ _ Board	9.	If so, good. This is a pot. Two letters are missing from the word pot. Spell the word pot on your letter board.-- Have you spelled the word pot on your letter board?
POT Board	10.	If so, good. What word did you just spell?-- Good if you said pot. The letters POT spell the word pot. Push the letters POT to the side of your letter board.-- Have you pushed the letters POT to the side of your letter board?
Picture Cot	11.	If so, good. This is a cot. You can nap on a cot. We will spell the word cot. Find the letter C. Put the C in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the C.-- Find the letter T. Put the T on your letter board next to the O.-- Have you put the letters COT on your letter board?
Picture Cot COT Board	12.	If so, good. The letters COT spell the word cot. What word did you just spell?-- Good if you said cot. Point to your letters on your letter board and say their sounds.-- Good if you said (c), (o), (t), cot, cot, cot. The letters COT spell the word cot. Push the letters COT to the side of your letter board.-- Have you pushed the letters COT to the side of your letter board?
Picture Cot C_T Board	13.	If so, good. This is a cot. One letter is missing from the word cot. Spell the word cot on your letter board.-- Have you spelled the word cot on your letter board?
Picture Cot COT Board	14.	If so, good. What word did you just spell?-- Good if you said cot. Point to your letters on your letter board and say their sounds.-- Good if you said (c), (o), (t), cot, cot, cot. The letters COT spell the word cot. Push the letters COT to the side of your letter board.-- Have you pushed the letters COT to the side of your letter board?
Picture Cot _ _T Board	15.	If so, good. This is a cot. Two letters are missing from the word cot. Spell the word cot on your letter board.-- Have you spelled the word cot on your letter board?

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COT Board	16.	If so, good. What word did you just spell?-- Good if you said cot. The letters COT spell the word cot. Push the letters COT to the side of your letter board.-- Have you pushed the letters COT to the side of your letter board?
Picture Top	17.	If so, good. This is a top. We can spin a top. We will spell the word top. Find the letter T. Put the T in the middle of your letter board.-- Find the letter O. Put the O on the letter board next to the T.-- Find the letter P. Put the P on your letter board next to the O.-- Have you put the letters TOP on your letter board?
Picture Top TOP Board	18.	If so, good. The letters TOP spell the word top. What word did you just spell?-- Good if you said top. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (o), (p), top, top, top. The letters TOP spell the word top. Push the letters TOP to the side of your letter board.-- Have you pushed the letters TOP to the side of your letter board?
Picture Top T_P Board	19.	If so, good. This is a top. One letter is missing from the word top. Spell the word top on your letter board.-- Have you spelled the word top on your letter board?
Picture Top TOP Board	20.	If so, good. What word did you just spell?-- Good if you said top. Point to your letters on your letter board and say their sounds.-- Good if you said (t), (o), (p), top, top, top. The letters TOP spell the word top. Push the letters TOP to the side of your letter board.-- Have you pushed the letters TOP to the side of your letter board?
Picture Top __P Board	21.	If so, good. This is a top. Two letters are missing from the word top. Spell the word top on your letter board.-- Have you spelled the word top on your letter board?
TOP Board	22.	If so, good. What word did you just spell?-- Good if you said top. The letters TOP spell the word top. Push the letters TOP to the side of your letter board.-- Have you pushed the letters TOP to the side of your letter board?

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Picture Mop	23.	If so, good. This is a mop. We can scrub the floor with a mop. We will spell the word mop. Find the letter M. Put the M in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the M.-- Find the letter P. Put the P on your letter board next to the O.-- Have you put the letters MOP on your letter board?
Picture Mop MOP Board	24.	If so, good. The letters MOP spell the word mop. What word did you just spell?--Good if you said mop. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (o), (p), mop, mop, mop. The letters MOP spell the word mop. Push the letters MOP to the side of your letter board.-- Have you pushed the letters MOP to the side of your letter board?
Picture Mop M_P Board	25.	If so, good. This is a mop. One letter is missing from the word mop. Spell the word mop on your letter board.-- Have you spelled the word mop on your letter board?
Picture Mop MOP Board	26.	If so, good. What word did you just spell?-- Good if you said mop. Point to your letters on your letter board and say their sounds.-- Good if you said (m), (o), (p), mop, mop, mop. The letters MOP spell the word mop. Push the letters MOP to the side of your letter board.-- Have you pushed the letters MOP to the side of your letter board?
Picture Mop	27.	If so, good. This is a mop. Two letters are missing from the word mop. Spell the word mop on your letter board.-- Have you spelled the word mop on your letter board?
MOP Board	28.	If so, good. What word did you just spell?-- Good if you said mop. The letters MOP spell the word mop. Push the letters MOP to the side of your letter board. -- Have you pushed the letters MOP to the side of your letter board?
Picture Cot POT and COT Board	29.	If so, good. Read the words in the picture.-- Good if you read pot and cot.
TOP AND MOP Board	30.	Read the words in this picture.-- Good if you read top and mop.

LESSON XXII

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Picture Dot	1.	This is a girl named Dot. We will spell the word Dot. Find the letter D. Put the D in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the D.-- Find the letter T. Put the T on your letter board next to the O.-- Have you put the letters DOT on your letter board?
Picture Dot DOT Board	2.	If so, good. The letters DOT spell the word Dot. What word did you just spell?-- Good if you said Dot. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (o), (t), Dot, Dot, Dot. The letters DOT spell the word Dot. Push the letters DOT to the side of your letter board.-- Have you pushed the letters DOT to the side of your letter board?
Picture Dot Can Mop D_T CAN MOP Board	3.	If so, good. This is a picture of Dot. What can Dot do?-- Good if you said Dot Can Mop. One letter is missing from the word Dot. Spell the word Dot on your letter board.-- Have you spelled the word Dot on your letter board?
Picture Dot Can Mop DOT CAN MOP Board	4.	If so, good. What word did you just spell?-- Good if you said Dot. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (o), (t), Dot, Dot, Dot. The letters DOT spell the word Dot. Read the words in the picture. -- Good if you read Dot Can Mop. Push the word Dot to the side of your letter board.-- Have you pushed the word Dot to the side of your letter board?
Picture Don	5.	If so, good. This is a boy named Don. We will spell the word Don. Find the letter D. Put the D in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the D.-- Find the letter N. Put the N on your letter board next to the O.-- Have you put the letters DON on your letter board?
Picture Don DON Board	6.	If so, good. The letters DON spell the word Don. What word did you just spell?-- Good if you said Don. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (o), (n), Don, Don, Don. The letters DON spell the word Don.

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		Push the letters DON to the side of your letter board.-- Have you pushed the letters DON to the side of your letter board?
Picture Don Can Hop DO_ CAN HOP Board	7.	If so, good. This is a picture of Don. What can Don do?-- Good if you said Don Can Hop. One letter is missing from the word Don. Spell the word Don on your letter board.-- Have you spelled the word Don on your letter board?
Picture Don DON CAN HOP Board	8.	If so, good. What word did you just spell?-- Good if you said Don. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (o), (n), Don, Don, Don. The letters DON spell the word Don. Read the words in the picture.-- Good if you read Don Can Hop. Push the word Don to the side of your letter board.-- Have you pushed the word Don to the side of your letter board?
HOP Board	9.	If so, good. This is the word hop. We will spell the word hop. Find the letter H. Put the H in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the H.-- Find the letter P. Put the P on your letter board next to the O.-- Have you put the letters HOP on your letter board?
HOP Board	10.	If so, good. The letters HOP spell the word hop. What word did you just spell?-- Good if you said hop. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (o), (p), hop, hop, hop. The letters HOP spell the word hop. Push the letters HOP to the side of your letter board.-- Have you pushed the letters HOP to the side of your letter board?
Picture Dot Can Hop DOT CAN H_P Board	11.	This is a picture of Dot. Dot Can Hop. One letter is missing from the word hop. Spell the word hop on your letter board.-- Have you spelled the word hop on your letter board?
DOT CAN HOP Board	12.	If so, good. What word did you just spell?-- Good if you said hop. The letters HOP spell the word hop. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (o), (p), hop, hop, hop. The letters HOP spell the word hop. Read the words in the picture.--Good if you read Dot Can Hop. Push the word hop to the side of your letter board.--Have you pushed the word hop to the side of your letter board?

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Picture Don Can Hop DON CAN H_ _ Board	13,	If so, good. This is a picture of Don. Don Can Hop. Two letters are missing from the word hop. Spell the word hop on your letter board.-- Have you spelled the word hop on your letter board?
DON CAN HOP Board	14.	If so, good. What word did you just spell?-- Good if you said hop. The letters HOP spell the word hop. Read the words in the picture.-- Good if you read Don Can Hop. Push the word hop to the side of your letter board.-- Have you pushed the word hop to the side of your letter board?
ON Board	15.	If so, good. This is the word on. We will spell the word on. Find the letter O. Put the O in the middle of your letter board.-- Find the letter N. Put the N on your letter board next to the O.-- Have you put the letters ON on your letter board?
ON Board	16.	If so, good. The letters ON spell the word on. What word did you just spell?-- Good if you said on. Point to your letters on your letter board and say their sounds.-- Good if you said (o), (n), on, on, on. The letters ON spell the word on. Push the letters ON to the side of your letter board.-- Have you pushed the letters ON to the side of your letter board?
Picture A Mop On A Cot A MOP _N A COT Board	17.	If so, good. This is a picture of A Mop On A Cot. One letter is missing from the word on. Spell the word on on your letter board.-- Have you spelled the word on on your letter board?
A MOP ON A COT Board	18.	If so, good. What word did you just spell?-- Good if you said on. The letters ON spell the word on. Point to your letters on your letter board and say their sounds.-- Good if you said (c), (n), on, on, on. Read the words in the picture.-- Good if you read A Mop On A Cot. Push the word on to the side of your letter board.-- Have you pushed the word on to the side of your letter board?
Picture A Cat On A Cot A CAT _ _ A COT Board	19.	If so, good. This is a Cat On A Cot. Two letters are missing from the word on. Spell the word on on your letter board.-- Have you spelled the word on on your letter board?

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A CAT ON A COT Board	20.	If so, good. What word did you just spell?-- Good if you said on. The letters ON spell the word on. Read the words in the picture.-- Good if you read A Cat On A Cot. Push the word on to the side of your letter board.-- Have you pushed the word on to the side of your letter board?
Picture A Pot On A Cot A POT ON A C_ _ Board	21.	If so, good. This is A Pot On A Cot. Two letters are missing from the word cot. Spell the word cot on your letter board.-- Have you spelled the word cot on your letter board?
A POT ON A COT Board	22.	If so, good. What word did you just spell?-- Good if you said cot. The letters COT spell the word cot. Read the words in the picture.-- Good if you read A Pot On A Cot. Push the word cot to the side of your letter board.-- Have you pushed the word cot to the side of your letter board?
Picture A Cat In A Pot A CAT IN A P_ _ Board	23.	If so, good. This is A Cat In A Pot. Two letters are missing from the word pot. Spell the word pot on your letter board.-- Have you spelled the word pot on your letter board?
A CAT IN A POT Board	24.	If so, good. What word did you just spell?-- Good if you said pot. The letters POT spell the word pot. Read the words in the picture.-- Good if you read A Cat In A Pot. Push the word pot to the side of your letter board.-- Have you pushed the word pot to the side of your letter board?
Picture A Cat On A Pot A CAT _ _ A POT Board	25.	If so, good. This is a picture of a cat. Is the cat in the pot? No the cat is on the pot. Spell the word on on your letter board.-- Have you spelled the word on on your letter board?
A CAT ON A POT Board	26.	If so, good. What word did you just spell?-- Good if you said on. The letters ON spell the word on. Read the words in the picture.-- Good if you read A Cat On A Pot. Push the word on to the side of your letter board.-- Have you pushed the word on to the side of your letter board?
Picture A Mop In A Pot A MOP _N A POT Board	27.	If so, good. This is a mop. Is the mop in the pot or on the pot. Good if you said the mop is in the pot. One letter is missing from the word in. Spell the word in on your letter board.-- Have you spelled the word in on your letter board?

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A MOP IN A POT Board	28.	If so, good. What word did you just spell?-- Good if you said in. The letters IN spell the word in. Read the words in the picture.-- Good if you read A Mop In A Pot. Push the word in to the side of your letter board.-- Have you pushed the word in to the side of your letter board?
Picture A Mop On A Pot A MOP __ A POT Board	29.	If so, good. This is a mop. Is the mop in the pot or on the pot?-- Good if you said the mop is on the pot. One letter is missing from the word on. Spell the word on on your letter board.-- Have you spelled the word on on your letter board?
A MOP ON A POT Board	30.	If so, good. What word did you just spell?-- Good if you said on. The letters ON spell the word on. Read the words in the picture.-- Good if you read A Mop On A Pot.

LESSON XXIII

Picture Top TAP, TOP, TIP Board	1.	This is a picture of a top. Spell the word on your letter board that matches the picture.-- Have you spelled the word top on your letter board?
Picture Top TOP, TAP, TIP Board	2.	If so, good. What word did you just spell?-- Good if you said top. Read all of the words in the picture.-- Good if you read,top, tap, and tip.
Picture Pan PAN, PEN, PIN Board	3.	This is a picture of a pan. Spell the word on your letter board that matches the picture.-- Have you spelled the word pan on your letter board?
Picture Pan PAN, PIN, PEN Board	4.	If so, good. What word did you just spell?-- Good if you said pan. Read all of the words in the picture.-- Good if you read pan, pin, pen.
Picture Pet PIT, POT, PET Board	5.	This is a picture of a pet. Spell the word on your letter board that matches the picture.-- Have you spelled the word pet on your letter board?
Picture Pet PET, PIT, POT Board	6.	If so, good. What word did you just spell?-- Good if you said pet. Read all of the words in the picture.-- Good if you read pet, pit, pot.
Picture Man MAN, CAN, RAN Board	7.	This is a picture of a man. Spell the word on your letter board that matches the picture.-- Have you spelled the word man on your letter board?

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Picture Man MAN, CAN, RAN Board	8.	If so, good. What word did you just spell?-- Good if you said man. Read all of the words in the picture.-- Good if you read man, can, ran.
Picture Cap MAP, CAP, NAP Board	9.	This is a picture of a cap. Spell the word on your letter board that matches the picture.-- Have you spelled the word cap on your letter board?
Picture Cap CAP, MAP, NAP Board	10.	If so, good. What word did you just spell?-- Good if you said cap. Read all of the words in the picture.-- Good if you read cap, map, nap.
Picture Mat CAT, MAT, PAT Board	11.	This is a picture of a mat. Spell the word on your letter board that matches the picture.-- Have you spelled the word mat on your letter board?
Picture Mat MAT, CAT, PAT Board	12.	If so, good. What word did you just spell?-- Good if you said mat. Read all of the words in the picture.-- Good if you read mat, cat, pat.
Picture Hat RAT, FAT, HAT Board	13.	This is a picture of a hat. Spell the word on your letter board that matches the picture.-- Have you spelled the word hat on your letter board?
Picture Hat HAT, RAT, FAT Board	14.	If so, good. What word did you just spell?-- Good if you said hat. Read all of the words in the picture.-- Good if you read hat, rat, fat.
Picture Dam HAM, DAM, RAM Board	15.	This is a picture of a dam. Spell the word on your letter board that matches the picture.-- Have you spelled the word dam on your letter board?
Picture Dam DAM, HAM, RAM Board	16.	If so, good. What word did you just spell?-- Good if you said dam. Read all of the words in the picture.-- Good if you read dam, ham, ram.
Picture Pad DAD, PAD, HAD Board	17.	This is a picture of a pad. Spell the word on your letter board that matches the picture.-- Have you spelled the word pad on your letter board?
Picture Pad PAD, DAD, HAD Board	18.	If so, good. What word did you just spell?-- Good if you said pad. Read all of the word in the picture.-- Good if you read pad, dad, had.
Picture Pen PEN, HEN, MEN Board	19.	This is a picture of a pen. Spell the word on your letter board that matches the picture.-- Have you spelled the word pen on your letter board?

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Picture Pen PEN, HEN, MEN Board	20.	If so, good. What word did you just spell?-- Good if you said pen. Read all of the words in the picture.-- Good if you read pen, hen, men.
Picture Net NET, PET, MET, Board	21.	This is a picture of a net. Spell the word on your letter board that matches the picture.-- Have you spelled the word net on your letter board?
Picture Net NET, PET, MET Board	22.	If so, good. What word did you just spell?-- Good if you said net. Read all of the words in the picture.-- Good if you read net, pet, met.
Picture Mop TOP, HOP, MOP Board	23.	This is a picture of a mop. Spell the word on your letter board that matches the picture.-- Have you spelled the word mop on your letter board?
Picture Mop MOP, TOP, HOP Board	24.	If so, good. What word did you just spell?-- Good if you said mop. Read all of the words in the picture.-- Good if you read mop, top, hop.
Picture Hit HIT, HIM, HID Board	25.	This is a picture of a hit. Spell the word on your letter board that matches the picture.-- Have you spelled the word hit on your letter board?
Picture Hit HIT, HID, HIM Board	26.	If so, good. What word did you just spell?-- Good if you said hit. Read all of the words in the picture.-- Good if you read hit, hid, him.
Picture Fin FIN, FED, FAN Board	27.	This is a picture of a fin. Spell the word on your letter board that matches the picture.-- Have you spelled the word fin on your letter board?
Picture Fin FIN, FED, FAN Board	28.	If so, good. What word did you just spell?-- Good if you said fin. Read all of the words in the picture.-- Good if you read fin, fed, fan.
Picture Cat CAT, COT Board	29.	This is a picture of a cat. Spell the word on your letter board that matches the picture.-- Have you spelled the word cat on your letter board?
Picture Cat CAT, COT Board	30.	If so, good. What word did you just spell?-- Good if you said cat. Read all of the words in the picture.-- Good if you read cat, cot.
Picture Nap NIP, NAP	31.	This is a picture of a nap. Spell the word on your letter board that matches the picture.-- Have you spelled the word nap on your letter board?

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Picture Nap NAP, NIP Board	32.	If so, good. What word did you just spell?-- Good if you said nap. Read all of the words in the picture.-- Good if you read nap, nip.

LESSON XXIV

Picture Dot	1.	This is a picture of a dot. It is not the name of a girl. We will spell the word dot. Find the letter D. Put the D in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the D.-- Find the letter T. Put the T on your letter board next to the O.-- Have you put the letters DOT on your letter board?
Picture Dot DOT Board	2.	If so, good. What word did you just spell?-- Good if you said Dot. Point to your letters on your letter board and say their sounds.-- Good if you said (d), (o), (t), dot, dot, dot. The letters DOT spell the word dot. Push the letters DOT to the side of your letter board.-- Have you pushed the letters DOT to the side of your letter board?
Picture A Dot On A Top A D__ ON A TOP Board	3.	If so, good. This is a picture of a dot. Where is the dot?-- Good if you said A Dot On A Top. Two letters are missing from the word dot. Spell the word dot on your letter board.-- Have you spelled the word dot on your letter board?
A DOT ON A TOP Board	4.	If so, good. What word did you just spell?-- Good if you said dot. Read the words in the picture.-- Good if you read A Dot On A Top. Push the word dot to the side of your letter board.-- Have you pushed the word dot to the side of your letter board?
Picture A Hot Pot	5.	If so, good. This is a picture of a hot pot. We will spell the word hot. Find the letter H. Put the H in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the H.-- Find the letter T. Put the T on your letter board next to the O.-- Have you put the letters HOT on your letter board?
A HOT POT Board	6.	If so, good. The letters HOT spell the word hot. What word did you just spell?-- Good if you said hot. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (o), (t), hot, hot, hot. The letters HOT spell the word hot. Push the word hot to the side of your letter board.-- Have you pushed the word hot to the side of your letter board?

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Picture A Hot Cat A H_T CAT Board	7.	If so, good. This is a picture of a hot cat. One letter is missing from the word hot. Spell the word hot on your letter board.-- Have you spelled the word hot on your letter board?
A HOT CAT Board	8.	If so, good. What word did you just spell?-- Good if you said hot. Point to your letters on your letter board and say their sounds.-- Good if you said (h), (o), (t), hot, hot, hot. The letters HOT spell the word hot. Read the words in the picture.-- Good if you read A Hot Cat. Push the letters HOT to the side of your letter board.-- Have you pushed the word hot to the side of your letter board?
Picture A Hot Man A H_ _ MAN Board	9.	If so, good. This is a picture of A Hot Man. Two letters are missing from the word hot. Spell the word hot on your letter board.-- Have you spelled the word hot on your letter board?
A HOT MAN Board	10.	If so, good. What word did you just spell?-- Good if you said hot. Read the words in the picture.-- Good if you read a hot man. Push the word hot to the side of your letter board.-- Have you pushed the word hot to the side of your letter board?
B Board	11.	What is the name of this letter?-- Good if you said B. Every letter has a name and a sound. The sound for the letter B is (b). What is the sound for the letter B?-- Good if you said (b). The sound for the letter B is (b).
B Board	12.	What is the sound of this letter?-- Good if you said (b). The sound for the letter B is (b). What is the sound for the letter B?-- Good if you said (b). The sound for the letter B is (b).
B Board	13.	What is the name of this letter?-- Good if you said B. The sound for the letter B is (b). What is the sound for the letter B? Good if you said (b). The sound for the letter B is (b).
B Board	14.	What is the sound of this letter?-- Good if you said (b). The sound for the letter B is (b). What is the sound for the letter B?-- Good if you said (b). The sound for the letter B is (b).

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Picture Bat	15.	This is a picture of a bat. We can hit a ball with a bat. We will spell the word bat. Find the letter B. Put the B in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the B.-- Find the letter T. Put the T on your letter board next to the A.-- Have you put the letters BAT on your letter board?
Picture Bat BAT Board	16.	If so, good. The letters BAT spell the word bat. What word did you just spell?-- Good if you said bat. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (a), (t), bat, bat, bat. The letters BAT spell the word bat. Push the word bat to the side of your letter board.-- Have you pushed the word bat to the side of your letter board?
Picture A Bat On A Mat A B_T ON A MAT	17.	If so, good. This is a picture of A Bat On A Mat. One letter is missing from the word bat. Spell the word bat on your letter board.-- Have you spelled the word bat on your letter board?
A BAT ON A MAT	18.	If so, good. What word did you just spell?-- Good if you said bat. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (a), (t), bat, bat, bat. The letters BAT spell the word bat. Read the words in the picture.-- Good if you read A Bat On A Mat. Push the word bat to the side of your letter board.-- Have you pushed the word bat to the side of your letter board?
Picture A Cat On A Bat A CAT ON A B_ _ Board	19.	If so, good. This is a picture of A Cat On A Bat. Two letters are missing from the word bat. Spell the word bat on your letter board.-- Have you spelled the word bat on your letter board?
A CAT ON A BAT Board	20.	If so, good. What word did you just spell?-- Good if you said bat. Read the words in the picture.-- Good if you read A Cat On A Bat. Push the word bat to the side of your letter board.-- Have you pushed the word bat to the side of your letter board?
Picture Cab	21.	If so, good. This is a picture of a cab. You can ride in a cab. We will spell the word cab. Find the letter C. Put the C in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the C.-- Find the letter B. Put the B on your letter board next to the A.-- Have you put the letters CAB on your letter board?

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Picture Cab CAB Board	22.	If so, good. The letters CAB spell the word cab. What word did you just spell?-- Good if you said cab. Point to your letters on your letter board and say their sounds.-- Good if you said (c), (a), (b), cab, cab, cab. The letters CAB spell the word cab. Push the word cab to the side of your letter board. -- Have you pushed the word cab to the side of your letter board?
Picture A Ram In A Cab A RAM IN A C_B Board	23.	If so, good. This is a picture of a ram. Where is the ram? Good if you said A Ram In A Cab. One letter is missing from the word cab. Spell the word cab on your letter board.-- Have you spelled the word cab on your letter board?
A RAM IN A CAB Board	24.	If so, good. What word did you just spell?-- Good if you said cab. Point to your letters on your letter board and say their sounds.-- Good if you said (c), (a), (b), cab, cab, cab. The letters CAB spell the word cab. Read the words in the picture.-- Good if you read A Ram In A Cab. Push the word cab to the side of your letter board.-- Have you pushed the word cab to the side of your letter board?
Picture A Bat Hit A Cab A BAT HIT A C _ _ Board	25.	If so, good. This is a picture of a bat. What did the bat do?-- Good if you said A Bat Hit A Cab. Two letters are missing from the word cab. Spell the word cab on your letter board.-- Have you spelled the word cab on your letter board?
A BAT HIT A CAB Board	26.	If so, good. What word did you just spell?-- Good if you said cab. Read the words in the picture.-- Good if you read A Bat Hit A Cab. Push the word cab to the side of your letter board.-- Have you pushed the word cab to the side of your letter board?
Picture A Dot On A Hen A DOT ON A HEN Board	27.	If so, good. Read the words in the picture.-- Good if you read A Dot On A Hen.
Picture A Hot Rat A HOT RAT Board	28.	Read the words in the picture.-- Good if you read A Hot Rat.

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Picture A Cat Hit A Bat A CAT HIT A BAT Board	29. Read the words in the picture.-- Good if you read A Cat Hit A Bat.
Picture A Cat On A Cab A CAT ON A CAB Board	30. Read the words in the picture.-- Good if you read A Cat On A Cab.

LESSON XXV

Picture Ben	1. This is a picture of Ben. Ben is a young man. We will spell the name Ben. Find the letter B. Put the B in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the B.-- Find the letter N. Put the N on your letter board next to the E.-- Have you put the letters BEN on your letter board?
Picture Ben BEN Board	2. If so, good. The letters BEN spell the name Ben. What name did you just spell?-- Good if you said Ben. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (e), (n), Ben, Ben, Ben. The letters BEN spell the name Ben. Push the name Ben to the side of your letter board. -- Have you pushed the name Ben to the side of your letter board?
Picture Ben Can Bat B_N CAN BAT Board	3. If so, good. This is a picture of Ben. What can Ben do?-- Good if you said Ben Can Bat. One letter is missing from the name Ben. Spell the name Ben on your letter board.-- Have you spelled the name Ben on your letter board?
Picture Ben Can Bat BEN CAN BAT Board	4. If so, good. What name did you just spell?-- Good if you said Ben. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (e), (n), Ben, Ben, Ben. The letters BEN spell the name Ben. Read the words in the picture.-- Good if you read Ben Can Bat. Push the name Ben to the side of your letter board.-- Have you pushed the name Ben to the side of your letter board?
Picture Bob	5. If so, good. This is a picture of Bob. Bob is a young man. We will spell the name Bob. Find the letter B. Put the B in the middle of the letter

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		board.-- Find the letter O. Put the O on your letter board next to the B. Find the letter B. Put the B on your letter board next to the O.-- Have you put the letters BOB on your letter board?
Picture Bob BOB Board	6.	If so, good. The letters BOB spell the name Bob. What name did you just spell?-- Good if you said Bob. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (o), (b), Bob, Bob, Bob. The letters BOB spell the name Bob. Push the name Bob to the side of your letter board.-- Have you pushed the name Bob to the side of your letter board?
Picture Bob Can Bat B_B CAN BAT Board	7.	If so, good. This is a picture of Bob. What can Bob do?-- Good if you said Bob Can Bat. One letter is missing from the name Bob. Spell the name Bob on your letter board.-- Have you spelled the name Bob on your letter board?
BOB CAN BAT Board	8.	If so, good. What name did you just spell?-- Good if you said Bob. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (o), (b), Bob, Bob, Bob. Read the words in the picture.-- Good if you read Bob Can Bat. Push the name Bob to the side of your letter board. -- Have you pushed the name Bob to the side of your letter board?
Picture Bob Can Hit Ben B__ CAN HIT BEN Board	9.	If so, good. Bob Can Hit Ben. Two letters are missing from the word Bob. Spell the word Bob on your letter board.-- Have you spelled the word Bob on your letter board?
BOB CAN HIT BEN Board	10.	If so, good. What name did you just spell?-- Good if you said Bob. Read the words in the picture.-- Good if you read Bob Can Hit Ben. Push the name Bob to the side of your letter board.-- Have you pushed the name Bob to the side of your letter board?
Picture Ben Can Hit Bob B__ CAN HIT BOB Board	11.	If so, good. Ben Can Hit Bob. Two letters are missing from the word Ben. Spell the word Ben on your letter board.-- Have you spelled the word Ben on your letter board?
BEN CAN HIT BOB Board	12.	If so, good. What word did you just spell? Good if you said Ben. Read the words in the picture.-- Good if you read Ben Can Hit Bob. Push the name Ben to the side of your letter board.-- Have you pushed the name Ben to the side of your letter board?

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Picture A Bad Man	13. If so, good. This is a picture of a bad man. We will spell the word bad on your letter board. Find the letter B.--Put the B in the middle of your letter board.-- Find the letter A. Put the A on your letter board next to the B. Find the letter D. Put the D on your letter board next to the A.-- Have you put the letters BAD on your letter board?
Picture A Bad Man BAD Board	14. If so, good. The letters BAD spell the word bad. What word did you just spell?--Good if you said bad. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (ae), (d), bad, bad, bad. Push the word bad to the side of your letter board.-- Have you pushed the word bad to the side of your letter board?
Picture A Bad Nt A B_D NET Board	15. If so, good. This is a net. The net is broken. We can say this is a bad net. One letter is missing from the word bad. Spell the word bad on your letter board.-- Have you spelled the word bad on your letter board?
A BAD NET Board	16. If so, good. What word did you just spell?-- Good if you said bad. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (ae), (d), bad, bad, bad. Read the words in the picture.-- Good if you read A Bad Net. Push the word bad to the side of your letter board.-- Have you pushed the word bad to the side of your letter board?
Picture A Bad Bat A B_ _ BAT Board	17. If so, good. This is a picture of a broken bat. We can say A Bad Bat. Two letters are missing from the word bad. Spell the word bad on your letter board.-- Have you spelled the word bad on your letter board?
A BAD BAT Board	18. If so, good. What word did you just spell?-- Good if you said bad. Read the words in the picture.-- Good if you read A Bad Bat. Push the word bad to the side of your letter board.-- Have you pushed the word bad to the side of your letter board?
Picture Bed	19. If so, good. This is a bed. We sleep in a bed. We will spell the word bed. Find the letter B. Put the B in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to

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		the B. Find the letter D. Put the D on your letter board next to the E.-- Have you put the letters BED on your letter board?
Picture Bed BED Board	20.	If so, good. The letters BED spell the word bed. What word did you just spell?-- Good if you said bed. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (e), (d), bed, bed, bed. The letters BED spell the word bed. Push the word bed to the side of your letter board.-- Have you pushed the word bed to the side of your letter board?
Picture A Man In A Bed A MAN IN A B_D	21.	If so, good. This is a picture of a man in a bed. One letter is missing from the word bed. Spell the word bed on your letter board.-- Have you spelled the word bed on your letter board?
A MAN IN A BED_ Board	22.	If so, good. What word did you just spell?-- Good if you said bed. Point to your letters on your letter board and say their sounds. Good if you said (b), (e), (d), bed, bed, bed. Read the words in the picture.-- Good if you read A Man In A Bed. Push the word bed to the side of your letter board.-- Have you pushed the word bed to the side of your letter board?
Picture A Bad Bed A BAD B-__ Board	23.	If so, good. This is a picture of a broken bed, A Bad Bed. Two letters are missing from the word bed. Spell the word bed on your letter board.-- Have you spelled the word bed on your letter board?
A BAD BED Board	24.	If so, good. What word did you just spell?-- Good if you said bed. Read the words in the picture.-- Good if you read A Bad Bed. Push the word bed to the side of your letter board.-- Have you pushed the word bed to the side of your letter board?
Picture A Hot Ram A HOT RAM Board	25.	If so, good. Read the words in the picture.-- Good if you read A Hot Ram.
Picture Bob Can Nap In Bed BOB CAN NAP IN BED Board	26.	Read the words in the picture.-- Good if you read Bob Can Nap In Bed.

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Picture A Dot On A Pot A DOT ON A POT Board	27. Read the words in the picture.-- Good if you read A Dot On A Pot.
Picture A Bad Fan A BAD FAN Board	28. Read the words in the picture.-- Good if you read A Bad Fan.
Picture A Dot On A Pen A DOT ON A PEN Board	29. Read the words in the picture.-- Good if you read A Dot On A Pen
Picture A Bad Cot A BAD COT Board	30. Read the words in the picture.-- Good if you read A Bad Cot.

LESSON XXVI

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AN Board	1. This is the word an. We will spell the word an on your letter board. Find the letter A. Put the A on your letter board.-- Find the letter N. Put the N on your letter board next to the A.-- Have you put the letters AN on your letter board?
AN Board	2. If so, good. The letters AN spell the word an. What word did you just spell?-- Good if you said an. Point to your letters on your letter board and say their sounds.-- Good if you said (ae), (n), an, an, an. The letters AN spell the word an. Push the word an to the side of your letter board.-- Have you pushed the word an to the side of your letter board?
X Board	3. If so, good. What is the name of this letter?-- Good if you said X. Every letter has a name and a sound. The sound for the letter X is (ks). What is the sound for the letter X?-- Good if you said (ks). The sound for the letter X is (ks).
X Board	4. What is the sound for this letter?-- Good if you said (ks). The sound for the letter X is (ks). What is the sound for the letter X?-- Good if you said (ks). The sound for the letter X is (ks).
X Board	5. What is the name of this letter?-- Good if you said X. The sound for the letter X is (ks). What is the sound for the letter X?-- Good if you said (ks). The sound for the letter X is (ks).
X Board	6. What is the sound for this letter?-- Good if you said (ks). The sound for the letter X is (ks). What is the sound for the letter X?-- Good if you said (ks). The sound for the letter X is (ks).
Picture Ax	7. This is a picture of an ax. We can use an ax to chop wood. We will spell the word ax. Find the letter A. Put the A in the middle of your letter board.-- Find the letter X. Put the X on your letter board next to the A.-- Have you put the letters AX on your letter board?
Picture Ax AX Board	8. If so, good. The letters AX spell the word ax. What word did you just spell?-- Good if you said ax. Point to your letters on your letter board and say their sounds.-- Good if you said (ae), (ks), ax, ax, ax. The letters AX spell the word ax. Push the word ax to the side of your letter board.-- Have you pushed the word ax to the side of your letter board?

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Picture Ax AX Board	9.	If so, good. This is a picture of an ax. Where is the ax?-- Good if you said An Ax In A Pit. One letter is missing from the word ax. Spell the word ax on your letter board.-- Have you spelled the word ax on your letter board?
AN AX IN A PIT Board	10.	If so, good. What word did you just spell?-- Good if you said ax. Point to your letters on your letter board and say their sounds.-- Good if you said (ae), (ks), ax, ax, ax. The letters AX spell the word ax. Read the words in the picture.-- Good if you read An Ax In A Pit. Push the word ax to the side of your letter board.-- Have you pushed the word ax to the side of your letter board?
Picture An Ax In A Hat AN ___ IN A HAT Board	11.	If so, good. This is a picture of an ax. Where is the ax?-- Good if you said An Ax In A Hat. Two letters are missing from the word ax. Spell the word ax on your letter board.-- Have you spelled the word ax on your letter board?
AN AX IN A HAT Board	12.	If so, good. What word did you just spell?-- Good if you said ax. Read the words in the picture.-- Good if you read An Ax In A Hat. Push the word ax to the side of your letter board.-- Have you pushed the word ax to the side of your letter board?
Picture Ox	13.	If so, good. An ox is a big animal. We will spell the word ox. Find the letter O. Put the O in the middle of your letter board.-- Find the letter X. Put the X on your letter board next to the O.-- Have you put the letters OX on your letter board?
Picture Ox OX Board	14.	If so, good. The letters OX spell the word ox. What word did you just spell?-- Good if you said ox. Point to your letters on your letter board and say their sounds.--- Good if you said (o), (ks), ox, ox, ox. The letters OX spell the word ox. Push the word ox to the side of your letter board.-- Have you pushed the word ox to the side of your letter board?
Picture An Ox In A Pit AN O_ IN A PIT Board	15.	If so, good. This is an ox. Where is the ox?-- Good if you said An Ox In A Pit. One letter is missing from the word ox. Spell the word ox on your letter board.-- Have you spelled the word ox on your letter board?

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AN OX IN A PIT Board	16.	If so, good. What word did you just spell?-- Good if you said ox. Point to your letters on your letter board and say their sounds.-- Good if you said (o), (ks), ox, ox, ox. Read the words in the picture.-- Good if you read An Ox In A Pit. Push the word ox to the side of your letter board.-- Have you pushed the word ox to the side of your letter board?
Picture A Hat On An Ox A HAT ON	17.	If so, good. This is a picture of A Hat On An Ox. Two letters are missing from the word ox. Spell the word ox on your letter board.-- Have you spelled the word ox on your letter board?
A HAT ON AN OX Board	18.	If so, good. What word did you just spell?-- Good if you said ox. Read the words in the picture.-- Good if you read A Hat On An Ox. Push the word ox to the side of your letter board.-- Have you pushed the word ox to the side of your letter board?
Picture Box	19.	If so, good. This is a box. We can put many things in a box. We will spell the word box on your letter board. Find the letter B. Put the B in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the B.-- Find the letter X. Put the X on your letter board next to the O.-- Have you put the letters BOX on your letter board?
Picture Box BOX Board	20.	If so, good. The letters BOX spell the word box. What word did you just spell?-- Good if you said box. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (o), (ks), box, box, box. The letters BOX spell the word box. Push the word box to the side of your letter board.-- Have you pushed the word box to the side of your letter board?
Picture A Box On An Ox A BO_ ON AN OX Board	21.	If so, good. This is a picture of A Box On An Ox. One letter is missing from the word box. Spell the word box on your letter board.-- Have you spelled the word box on your letter board?
A BOX ON AN OX Board	22.	If so, good. What word did you just spell?-- Good if you said box. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (o), (ks), box, box, box. Read the words in the picture.-- Good if you read A Box On An Ox. Push the word box to the side of your letter board.-- Have you pushed the word box to the side of your letter board?

Slide		
Picture An Ax In A Box AN AX IN A B _ _	23.	If so, good. This is a picture of An Ax In A Box. Two letters are missing from the word box. Spell the word box on your letter board.-- Have you spelled the word box on your letter board.
AN AX IN A BOX Board	24.	If so, good. What word did you just spell?-- Good if you said box. Read the words in the picture.-- Good if you read An Ax In A Box. Push the word box to the side of your letter board?-- Have you pushed the word box to the side of your letter board?
Picture Fox	25.	If so, good. This is a picture of a fox. A fox is an animal. We will spell the word fox. Find the letter F. Put the F in the middle of your letter board?-- Find the letter O. Put the O on your letter board next to the F.-- Find the letter X. Put the X on your letter board next to the O.-- Have you put the letters FOX on your letter board?
Picture Fox FOX Board	26.	If so, good. The letters FOX spell the word fox. What word did you just spell?-- Good if you said fox. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (o), (ks), fox, fox. fox. The letters FOX spell the word fox. Push the word fox to the side of your letter board.-- Have you pushed the word fox to the side of your letter board?
Picture A Box On A Fox A BOX ON A FO_ Board	27.	If so, good. This is a picture of A Box On A Fox. One letter is missing from the word fox. Spell the word fox on your letter board.-- Have you spelled the word fox on your letter board?
A BOX ON A FOX Board	28.	If so, good. What word did you just spell?-- Good if you said fox. Point to your letters on your letter board and say their sounds.-- Good if you said (f), (o), (ks), fox, fox, fox. Read the words in the picture.-- Good if you read A Box On A Fox. Push the word fox to the side of your letter board.-- Have you pushed the word fox to the side of your letter board?
Picture A Fox On An Ox A F_ _ ON AN OX Board	29.	If so, good. This is a picture of a fox. Where is the fox.-- Good if you said A Fox On An Ox. Two letters are missing from the word fox.-- Spell the word fox on your letter board.-- Have you spelled the word fox on your letter board?

Slide		
A FOX ON AN OX Board	30.	If so, good. What word did you just spell?-- Good if you said a fox. Read the words in the picture.-- Good if you read A Fox On An Ox.

LESSON XXVII

S Board	1.	What is the name of this letter?-- Good if you said S. Every letter has a name and a sound. The sound for the letter S is (s). What is the sound for the letter S?-- Good if you said (s). The sound for the letter S is (s).
S Board	2.	What is the sound of this letter?-- Good if you said (s). The sound for the letter S is (s). What is the sound of the letter S?-- Good if you said (s). The sound for the letter S is (s).
S Board	3.	What is the name of this letter.-- Good if you said S. The sound for the letter S is (s). What is the sound for the letter S?-- Good if you said (s). The sound for the letter S is (s).
S Board	4.	What is the sound of this letter?-- Good if you said (s). The sound for the letter S is (s). What is the sound of the letter S?-- Good if you said (s). The sound for the letter S is (s).
Picture 6	5.	This is the number six. We will spell the word six. Find the letter S. Put the S in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the S.-- Find the letter X. Put the X on your letter board next to the I.-- Have you put the letters SIX on your letter board?
Picture 6 SIX Board	6.	If so, good. The letters SIX spell the word six. What word did you just spell?-- Good if you said six. Point to your letters on your letter board and say their sounds.-- Good if you said (s), (i), (ks), six, six, six. The letters SIX spell the word six. Push the word six to the side of your letter board.-- Have you pushed the word six to the side of your letter board?
Picture A Six On A Box A _IX ON A BOX Board	7.	If so, good. This is a picture of a six. Where is the six?-- Good if you said A Six On A Box. One letter is missing from the word six. Spell the word six on your letter board.-- Have you spelled the word six on your letter board?

Slide		
A SIX ON A BOX Board	8.	If so, good. What word did you just spell?-- Good if you said six. Point to your letters on your letter board and say their sounds.-- Good if you said (s), (i), (ks), six, six, six. The letters SIX spell the word six. Push the word six to the side of your letter board.-- Have you pushed the word six to the side of your letter board?
Picture Six Men __X MEN Board	9.	If so, good. This is a picture of six men. Two letters are missing from the word six. Spell the word six on your letter board.-- Have you spelled the word six on your letter board?
SIX Board	10.	If so, good. What word did you just spell?-- Good if you said six. Read the words in the picture.-- Good if you read six men. Push the word six to the side of your letter board.-- Have you pushed the word six to the side of your letter board?
Picture Sox	11.	If so, good. This is a picture of sox on our feet. We will spell the word sox. Find the letter S. Put the S in the middle of your letter board.-- Find the letter O. Put the O on your letter board next to the S.-- Find the letter X. Put the X on your letter board next to the O.-- Have you put the letters SOX on your letter board?
Picture Sox SOX Board	12.	If so, good. The letters SOX spell the word sox. What word did you just spell?-- Good if you said sox. Point to your letters on your letter board and say their sounds.-- Good if you said (s), (o), (ks), sox, sox, sox. The letters SOX spell the word sox. Push the word sox to the side of your letter board.-- Have you pushed the word sox to the side of your letter board?
Picture 6 Sox SIX _OX	13.	If so, good. This is a picture of six sox. One letter is missing from the word sox. Spell the word sox on your letter board.-- Have you spelled the word sox on your letter board?
SIX SOX Board	14.	If so, good. What word did you just spell?-- Good if you said sox. Point to your letters on your letter board and say their sounds.-- Good if you said (s), (o), (ks), sox, sox, sox. The letters SOX spell the word sox. Push the word sox to the side of your letter board.-- Have you pushed the word sox to the side of your letter board?

Slide		
Picture A Fox In Sox A FOX IN _ _X Board	15.	If so, good. This is a picture of A Fox In Sox. Two letters are missing from the word sox. Spell the word sox on your letter board.-- Have you spelled the word sox on your letter board?
A FOX IN SOX Board	16.	If so, good. What word did you just spell?-- Good if you said sox. Read the words in the picture.-- Good if you read A Fox In Sox. Push the word sox to the side of your letter board.-- Have you pushed the word sox to the side of your letter board?
Picture Pep Ran	17.	If so, good. This is a picture of Pep. Pep ran. We will spell the name Pep. Find the letter P. Put the P in the middle of your letter board.-- Find the letter E. Put the E on your letter board next to the P.-- Find another letter P. Put the P on your letter board next to the E.-- Have you put the letters PEP on your letter board?
Picture Pep Ran PEP Board	18.	If so, good. The letters PEP spell the name Pep. What name did you just spell?-- Good if you said Pep. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (e), (p), Pep, Pep, Pep. The letters PEP spell the word Pep. Push the word Pep to the side of your letter board.-- Have you pushed the word Pep to the side of your letter board?
Picture Dan Hit Pep DAN HIT PE_	19.	If so, good. Dan hit Pep. One letter is missing from the name Pep. Spell the name Pep on your letter board.-- Have you spelled the name Pep on your letter board?
DAN HIT PEP Board	20.	If so, good. What word did you just spell?-- Good if you said Pep. Point to your letters on your letter board and say their sounds.-- Good if you said (p), (e), (p), Pep, Pep, Pep. The letters PEP spell the name Pep. Push the name Pep to the side of your letter board.-- Have you pushed the name Pep to the side of your letter board?
Picture Pep Hit A Fox P_ _ HIT A FOX	21.	If so, good. Pep Hit A Fox. Two letters are missing from the word Pep. Spell the name Pep on your letter board.-- Have you spelled the name Pep on your letter board?

Slide		
PEP HIT A FOX Board	22.	If so, good. What name did you just spell?-- Good if you said Pep. Read the words in the picture.-- Good if you read Pep Hit A Fox. Push the name Pep to the side of your letter board.-- Have you pushed the name Pep to the side of your letter board?
Picture Pep Bit A Pen	23.	If so, good. Pep Bit A Pen. We will spell the word bit. Find the letter B. Put the B in the middle of your letter board.-- Find the letter I. Put the I on your letter board next to the B.-- Find the letter T. Put the T on your letter board next to the I.-- Have you put the letters BIT on your letter board?
Picture Pep Bit A Pen BIT Board	24.	If so, good. The letters BIT spell the word bit. What word did did you just spell?-- Good if you said bit. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (i), (t), bit, bit, bit. The letters BIT spell the word bit. Push the word bit to the side of your letter board.-- Have you pushed the word bit to the side of your letter board?
Picture Pep Bit A Pan PEP BI_ A PAN Board	25.	If so, good. Pep Bit A Pan. One letter is missing from the word bit. Spell the word bit on your letter board.-- Have you spelled the word bit on your letter board?
PEP BIT A PAN Board	26.	If so, good. What word did you just spell?-- Good if you said bit. Point to your letters on your letter board and say their sounds.-- Good if you said (b), (i), (t), bit, bit, bit. The letters BIT spell the word bit. Read the words in the picture.-- Good if you read Pep Bit A Pan. Push the word bit to the side of your letter board.-- Have you pushed the word bit to the side of your letter board?
Picture Pep Bit A Cot PEP B_ _ A COT Board	27.	If so, good. Pep Bit A Cot. Two letters are missing from the word bit. Spell the word bit on your letter board.-- Have you spelled the word bit on your letter board?

Slide		
PEP BIT A COT Board	28.	If so, good. What word did you just spell?-- Good if you said bit. Read the words in the picture.-- Good if you read Pep Bit A Cot. Push the word bit to the side of your letter board.-- Have you pushed the word bit to the side of your letter board?
Picture Sox In A Box SOX IN A BOX Board	29.	If so, good. Read the words in the picture.-- Good if you read Sox In A Box.
Picture A Box Bit Pep A FOX BIT PEP Board	30.	Read the words in the picture.-- Good if you read A Fox Bit Pep.

LESSON XXVIII

Board C c	1.	In the picture you see two C's, a capital C and a small c. The small c has a line under it. You have a small c in the middle of your letter board. Put the small c in the middle of your letter board.-- Have you put the small c in the middle of your letter board?
Board C	2.	If so, good. What letter is on your letter board?-- Good if you said C.
Board A a	3.	In the picture you see two A's, a capital A and a small a. The small a has a line under it. You have a small a on the side of your letter board. Put the small a on your letter board next to the c.-- Have you put the small a on your letter board next to the c?
Board ca	4.	If so, good. What letters are on your letter board?-- Good if you said c a.
Board N n	5.	In the picture you see two N's, a capital N and a small n. The small n has a line under it. You have a small n on the side of your letter board. Put the small n on your letter board next to the a. Have you put the small n on your letter board next to the a?
Board can	6.	If so, good. The small letters c a n spell the word can. Point to your letters on your letter board and say their names.-- Good if you said c a n. The letters c a n spell the word can. Push the letters c a n to the side of your letter board.-- Have you pushed the letters c a n to the side of your letter board?

Slide		
Board R r	7.	If so, good. In the picture you see two R's, a capital R and a samll r. The small r has a line under it. You have a small r on the side of your letter board. Put the small r in the middle of your letter board.-- Have you put the small r in the middle of your letter board?
Board r	8.	If so, good. What letter is on your letter board? -- Good if you said r. Find the small letter a. Put the a on your letter board next to the r.-- Find the small letter n. Put the n on the letter board next to the a. Have you put the letters a n on your letter board?
Board ran	9.	If so, good. The small letters r a n spell the word ran. Point to your letters on your letter board and say their names.-- Good if you said r a n. The letters r a n spell the word ran. Push the letters r a n to the side of your letter board.-- Have you pushed the letters r a n to the side of your letter board?
Board RAN ran	10.	If so, good. Read the words in the picture.-- Good if you read RAN and ran. One ran is spelled with capital letters and one ran is spelled with small letters. Which ran is spelled with small letters.-- Good if you said the ran with the line under it.
Board CAN can	11.	Read the words in the picture.-- Good if you read CAN and can. One can is spelled with capital letters and one can is spelled with small letters. Which can is spelled with small letters?-- Good if you said the can with the line under it.
Board ca	12.	In the picture you see the small letters c and a. Find the small c. Put the c in the middle of your letter board.-- Find the small a. Put the a on your letter board next to the c. Have you put the letters c a on your letter board as you see in the picture?-- If so, good.
Board P p	13.	In the picture you see two P's, a capital P and a small p. The small p has a line under it. You have a small p on the side of your letter board. Put the small p on your letter board next to the a.-- Have you put the small p on your letter board next to the a?

Slide		
Board cap	14.	If so, good. What letter did you just put on your letter board?-- Good if you said p. The letters c a p spell the word cap. Point to your letters on your letter board and say their names.-- Good if you said c a p. The letters c a p spell the word cap. Push the letters c a p to the side of your letter board.-- Have you pushed the letters c a p to the side of your letter board?
Board M m	15.	If so, good. In the picture you see two M's, a capital M and a small m. The small m has a line under it. You have a small m on the side of your letter board. Put the small m in the middle of your letter board.-- Have you put the small m in the middle of your letter board?
Board m	16.	If so, good. What letter did you just put on your letter board?-- Good if you said m. Find the small a. Put the a on your letter board next to the m.-- Find the small letter p. Put the p on your letter board next to the a.-- Have you put the letters a p on your letter board?
Board map	17.	If so, good. The letters m a p spell the word map. What word did you just spell?-- Good if you said map. Point to your letters on your letter board and say their names.--Good if you said map. Push the letters m a p to the side of your letter board.-- Have you pushed the letters m a p to the side of your letter board?
Board CAP cap	18.	If so, good. Read the words in the picture.-- Good if you read CAP and cap One cap is spelled with capital letters and one cap is spelled with small letters. Which cap is spelled with small letters?-- Good if you said the cap with the line under it.
Board MAP map	19.	Read the words in the picture.-- Good if you read MAP and map. One map is spelled with capital letters and one map is spelled with small letters. Which map is spelled with small letters?-- Good if you said the map with the line under it.

Slide		
Board ma	20.	In the picture you see the small letters m a. Find the small letter m. Put the m in the middle of your letter board.-- Find the small letter a. Put the a on your letter board next to the m. Have you put the letters m a on your letter board?- If so, good.
Board T t	21.	In the picture you see two T's, a capital T and a small t. The small t has a line under it. You have a small t on your letter board. Put the small t on your letter board next to the a.-- Have you put the small t on your letter board next to the a.
Board mat	22.	If so, good. What word did you just spell?-- Good if you said mat. Point to your letters on your letter board and say their names.-- Good if you said m a t. Push the letters m a t to the side of your letter board.-- Have you pushed the letters m a t to the side of your letter board?
Board pat	23.	If so, good. This is the word pat. The letters p a t spell the word pat. Spell the word pat on your letter board.-- Have you spelled the word pat on your letter board?
Board pat	24.	If so, good. What word did you just spell?-- Good if you said pat. Point to your letters on your letter board and say their names.-- Good if you said p a t. Push the letters p a t to the side of your letter board.-- Have you pushed the letters p a t to the side of your letter board?
Board H h	25.	If so, good. In the picture you see two H's, a capital H and a small h. The small h has a line under it. You have a small h on the side of your letter board. Put the h in the middle of your letter board.-- Have you put the h in the middle of your letter board?
Board h	26.	If so, good. What letter is on your letter board?-- Good if you said h. Find the letter a. Put the a on your letter board next to the h.-- Find the letter t. Put the t on your letter board next to the a.-- Have you put the letters a t on your letter board?
Board hat	27.	If so, good. The letters h a t spell the word hat. What word did you just spell?-- Good if you said hat. Point to your letters on your letter board and say their names.-- Good if you said h a t. Push the letters h a t to the side of your letter board.-- Have you pushed the letters h a t to the side of your letter board?

Slide		
Board MAT mat	28.	If so, good. Read the words in the picture.-- Good if you read MAT and mat. One mat is spelled with capital letters and one mat is spelled with small letters. Which mat is spelled with small letters?-- Good if you said the mat with the line under it.
Board PAT pat	29.	Read the words in the picture.-- Good if you read PAT and pat. One pat is spelled with capital letters and one pat is spelled with small letters. Which pat is spelled with small letters?-- Good if you said the pat with the line under it.
Board HAT hat	30.	Read the words in the picture.-- Good if you read HAT and hat. One hat is spelled with capital letters and one hat is spelled with small letters. Which hat is spelled with small letters?-- Good if you said the hat with the line under it.

LESSON XXIX

Board h	1.	In the picture you see the small letter h. Find the small h on the side of your letter board. Put the small h in the middle of your letter board.-- Have you put the small h in the middle of your letter board? If so, good.
Board I i	2.	In the picture you see two I's, a capital I and a small i. The small i has a line under it. You have a small i on the side of your letter board. Put the small i on your letter board next to the h.-- Have you put the small i on your letter board next to the h?
Board hi	3.	If so, good. What letter did you just put on the letter board?-- Good if you said i. Find the letter t. Put the t on your letter board next to the i.-- Have you put the letter t on your letter board next to the i?
Board hit	4.	If so, good. The small letters h i t spell the word hit. Point to your letters on your letter board and say their names. Good if you said h i t. The letters h i t spell the word hit. Push the letters h i t to the side of your letter board.-- Have you pushed the letters h i t to the side of your letter board?

Slide		
Board hi	5.	If so, good. In the picture you see the small letters h and i. Put the h in the middle of your letter board.-- Find the small letter i. Put the i on your letter board next to the h.-- Have you put the small letters h i on your letter board? If so, good.
Board D d	6.	In the picture you see two D's, a capital D and a small d. The small d has a line under it. You have a small d on your letter board. Put the small d on your letter board next to the i.-- Have you put the small d on your letter board next to the i?
Board hid	7.	If so, good. What letter did you just put on the letter board?-- Good if you said d. The letters h i d spell the word hid. Point to your letters on your letter board and say their names. Good if you said h i d. The letters h i d spell the word hid. Push the letters h i d to the side of your letter board.-- Have you pushed the letters h i d to the side of your letter board?
Board B b	8.	In the picture you see two B's, a capital B and a small b. The small b has a line under it. You have a small b on the side of your letter board. Put the small b in the middle of your letter board.-- Have you put the small b in the middle of your letter ba board?
Board b	9.	If so, good. What letter is on your letter board?-- Good if you said b.
Board E e	10.	In the picture you see two E's, a capital E and a small e. The small e has a line under it. You have a small e on the side of your letter board. Put the small e on your letter board next to the b. -- Have you put the small letter e on your letter board next to the b?
Board be	11.	If so, good. What letter did you just put on your letter board?-- Good if you said e. Find the small letter d. Put the d on your letter board next to the e.-- Have you put the small letter d on your letter board next to the e?

Slide		
Board bed	12.	If so, good. The small letters b e d spell the word bed. What word did you just spell?-- Good if you said bed. Point to your letters on your letter board and say their names.-- Good if you said b e d. The letters b e d spell the word bed. Push the letters b e d to the side of your letter board.-- Have you pushed the letters b e d to the side of your letter board?
Board cab	13.	If so, good. In the picture you see the small letters c a b. The letters c a b spell the word cab. Spell the word cab on your letter board.-- Have you spelled the word cab on your letter board?
Board cab	14.	If so, good. The letters c a b spell the word cab. What word did you just spell?-- Good if you said cab. Point to your letters on your letter board and say their names. Good if you said c a b. The letters c a b spell the word cab. Push the letters c a b to the side of your letter board.-- Have you pushed the letters c a b to the side of your letter board?
Board HIT hit	15.	If so, good. Read the words in the picture.-- Good if you read HIT and hit. One hit is spelled with capital letters and one hit is spelled with small letters. Which hit is spelled with small letters? -- Good if you said the hit with the line under it.
Board HID hid	16.	Read the words in this picture.-- Good if you read HID and hid. One hid is spelled with capital letters and one hid is spelled with small letters. Which hid is spelled with small letters?-- Good if you said the hid with the line under it.
Board BED bed	17.	Read the words in this picture.-- Good if you read BED and bed. One bed is spelled with capital letters and one bed is spelled with small letters. Which bed is spelled with small letters?-- Good if you said the bed with the line under it.
Board CAB cab	18.	Read the words in this picture.-- Good if you read CAB and cab. One cab is spelled with capital letters and one cab is spelled with small letters. Which bed is spelled with small letters.-- Good if you said the cab with the line under it.

Slide	
Board F f	19. In the picture you see two F's, a capital F and a small f. The small f has a line under it. You have a small f on the side of your letter board. Put the small f in the middle of your letter board. -- Have you put the small f in the middle of your letter board?
Board f	20. If so, good. What letter did you just put on your letter board?-- Good if you said the f. Find the small letter e. Put the e on your letter board next to the f.--Find the small letter d. Put the d on your letter board next to the e.-- Have you put the small letters e and d on your letter board?
Board fed	21. If so, good. The letters f e d spell the word fed. What word did you just spell?-- Good if you said fed. Point to your letters on your letter board and say their names.-- Good if you said f e d. The letters f e d spell the word fed. Push the letters f e d to the side of your letter board.-- Have you pushed the letters f e d to the side of your letter board?
Board he	22. If so, good. In the picture you see the small letters h and e. Put the h in the middle of your letter board.-- Find the letter e. Put the e on your letter board next to the h.--Have you put the letters h and e on your letter board? If so, good.
Board N n	23. In the picture you see two N's, a capital N and a small n. You have a small n on the side of your letter board. Put the small n on your letter board next to the e.--Have you put the n on your letter board next to the e?--
Board hen	24. If so, good. What letter did you just put on your letter board?-- Good if you said n. The small letters h e n spell the word hen. What word did you just spell?-- Good if you said hen. Point to your letters on your letter board and say their names.-- Good if you said h e n. The letters h e n spell the word hen. Push the letters h e n to the side of your letter board.-- Have you pushed the letters h e n to the side of your letter board?

Slide		
Board fin	25.	If so, good. In the picture you see the small letters f i n. The small letters f i n spell the word fin. Spell the word fin on your letter board.-- Have you spelled the word fin on your letter board?
Board fin	26.	If so, good. The letters f i n spell the word fin. What word did you just spell?-- Good if you said fin. Point to your letters on your letter board and say their names.-- Good if you said f i n. The letters f i n spell the word fin. Push the letters f i n to the side of your letter board.-- Have you pushed the letters f i n to the side of your letter board?
Board FED fed	27.	If so, good. Read the words in this picture.-- Good if you read FED and fed. One fed is spelled with capital letters and one fed is spelled with small letters. Which fed is spelled with small letters? -- Good if you said the fed with the line under it.
Board HEN hen	28.	Read the words in this picture.-- Good if you read HEN and hen. One hen is spelled with capital letters and one hen is spelled with small letters. Which hen is spelled with small letters?-- Good if you said the hen with the line under it.
Board FIN fin	29.	Read the words in this picture.-- Good if you read FIN and fin. One fin is spelled with capital letters and one fin is spelled with small letters. Which fin is spelled with small letters?-- Good if you said fin with the line under it.

LESSON XXX

Board R r	1.	In the picture you see two R's, a capital R and a small r. The small r has a line under it. You have a small r on the side of your letter board. Put the small r in the middle of your letter board.-- Have you put the small r in the middle of your letter board?
Board r	2.	If so, good. What letter did you just put on your letter board?-- Good if you said r. Find the small letter a. Put the a on your letter board next to the r. Find the small letter t. Put the t on your letter board next to the a.-- Have you put the letters a t on your letter board?

Slide		
Board rat	3.	If so, good. The small letters r a t spell the word rat. What word did you just spell?-- Good if you said rat. Point to your letters on your letter board and say their names.-- Good if you said r a t. The small letters r a t spell the word rat. Push the letters r a t to the side of your letter board.-- Have you pushed the letters r a t to the side of your letter board?
Board ram	4.	If so, good. In the picture you see the small letters r a m. The letters r a m spell the word ram. Spell the word ram on your letter board.-- Have you spelled the word ram on your letter board?
Board ram	5.	If so, good. The letters r a m spell the word ram. What word did you just spell?-- Good if you said ram. Point to your letters on your letter board and say their names. -- Good if you said r a m. The letters r a m spell the word ram. Push the letters r a m to the side of your letter board.-- Have you pushed the letters r a m to the side of your letter board?
Board ran	6.	If so, good. In the picture you see the small letters r a n. The letters r a n spell the word ran. Spell the word ran on your letter board.-- Have you spelled the word ran on your letter board?
Board ran	7.	If so, good. The letters r a n spell the word ran. What word did you just spell?-- Good if you said ran. Point to your letters on your letter board and say their names. -- Good if you said r a n. The letters r a n spell the word ran. Push the letters r a n to the side of your letter board.-- Have you pushed the letters r a n to the side of your letter board?
Board RAT rat	8.	If so, good. Read the words in the picture.-- Good if you read RAT and rat. One rat is spelled with capital letters and one rat is spelled with small letters. Which rat is spelled with small letters?-- Good if you said rat with the line under it.
Board RAM ram	9.	Read the words in this picture.-- Good if you read RAM and ram. One ram is spelled with capital letters and one ram is spelled with small letters. Which ram is spelled with small letters?-- Good if you said the ram with the line under it.

Slide		
Board RAN ran	10.	Read the words in this picture.-- Good if you read RAN and ran. One ran is spelled with capital letters and one ran is spelled with small letters. Which ran is spelled with small letters?-- Good if you said ran with the line under it.
Board b	11.	In the picture you see the small letter b. Find the small letter b. Put the b in the middle of your letter board.-- Have you put the small letter b in the middle of your letter board? If so, good.
Board O o	12.	In the picture you see two O's, a capital O and a small o. The small o has a line under it. You have a small o on the side of your letter board. Put the small o on your letter board next to the b. Have you put the small o on your letter board next to the b?
Board bo	13.	If so, good. What letter did you just put on your letter board?-- Good if you said o.
Board X x	14.	In the picture you see two X's, a capital X and a small x. The small x has a line under it. You have a small x on the side of your letter board. Put the small x on your letter board next to the o.--Have you put the small x on your letter board next to the o?
Board box	15.	If so, good. What letter did you just put on your letter board?-- Good if you said x. The small letters b o x spell the word box. What word did you just spell?-- Good if you said box. Point to your letters on your letter board and say their names.-- Good if you said b o x. The letters b o x spell the word box. Push the letters b o x to the side of your letter board.-- Have you pushed the letters b o x to the side of your letter board?
Board fox	16.	If so, good. In the picture you see the small letters f o x. The letters f o x spell the word fox. Spell the word fox on your letter board.-- Have you spelled the word fox on your letter board?
Board fox	17.	If so, good. The letters f o x spell the word fox. What word did you just spell?-- Good if you said fox. Point to your letters on your letter board and say their names.-- Good if you said f o x. The letters f o x spell the word fox. Push the letters f o x to the side of your letter board.-- Have you pushed the letters f o x to the side of your letter board?

Slide		
Board S s	18.	If so, good. In the picture you see two S's, a capital S and a small s. The small s has a line under it. You have a small s on your letter board. Put the small s in the middle of your letter board.-- Have you put the small s in the middle of your letter board?
Board s	19.	If so, good. What letter did you just put on your letter board?-- Good if you said s. Find the small letter o. Put the o on your letter board next to the s.-- Find the small letter x. Put the letter x on your letter board next to the o.-- Have you put the letters o x on your letter board?
Board sox	20.	If so, good. The small letters s o x spell the word sox. What word did you just spell?-- Good if you said sox. Point to your letters on your letter board and say their names.-- Good if you said sox. s o x. The letters s o x spell the word sox. Push the letters s o x to the side of your letter board.-- Have you pushed the letters s o x to the side of your letter board?
Board six	21.	If so, good. In the picture you see the small letters s i x. Spell the word six on your letter board.-- Have you spelled the word six on your letter board?
Board six	22.	If so, good. The letters s i x spell the word six. What word did you just spell?-- Good if you said six. Point to your letters on your letter board and say their names.-- Good if you said s i x. The letters s i x spell the word six. Push the letters s i x to the side of your letter board.-- Have you pushed the letters s i x to the side of your letter board?
Board BOX box	23.	If so, good. Read the words in the picture.-- Good if you said FOX and fox. One fox is spelled with capital letters and one fox is spelled with small letters.--Which fox is spelled with small letters?-- Good if you said fox with the line under it.
Board FOX fox	24.	Read the words in this picture.-- Good if you said FOX and fox. One fox is spelled with capital letters and one fox is spelled with small letters. Which fox is spelled with small letters?-- Good if you said the fox with the line under it.

Slide	
Board SIX six	25. Read the words in this picture.-- Good if you said SIX and six. One six is spelled with capital letters and one six is spelled with small letters. Which six is spelled with small letters?-- Good if you said the six with the line under it.
Board SOX sox	26. Read the words in this picture.-- Good if you said SOX and s o x. One sox is spelled with capital letters and one sox is spelled with small letters. Which sox is spelled with small letters?-- Good if you said the sox with the line under it.
Board a e i o	27. In the picture you see the small letters a, e, i, and o. Find the letters a, e, i, and o on your letter board.-- Put the small letters a, e, i, and o on your letter board.-- Have you put the small letters a, e, i, and o on your letter board? If so, good. Push the letters a, e, i, and o to the side of your letter board.-- Have you pushed the letters a, e, i, and o to the side of your letter board?
Board m n c p	28. In the picture you see the small letters m, n, c, and p. Put the small letters m, n, c, and p on your letter board. -- Have you put the small letters m, n, c, and p on your letter board? If so, good. Point to the letters on your letter board and say their names.-- Good if you said m, n, c, and p. Push the letters m, n, c, and p to the side of your letter board.-- Have you pushed the letters m, n, c, and p to the side of your letter board?
Board t h d r	29. If so, good. In the picture you see the small letters t, h, d, and r. Find the letters t, h, d, and r on the side of your letter board. Put the small letters t, h, d, and r on your letter board.-- Have you put the letters t, h, d, and r on your letter board? If so, good. Point to the letters on your letter board and say their names. -- Good if you said t, h, d, and r. Push the letters t, h, d, and r to the side of your letter board.-- Have you pushed the letters t, h, d, and r to the side of your letter board?
Board f b x s	30. If so, good. In the picture you see the small letters f, b, x, and s. Find the letters f, b, x, and s on the side of your letter board. Put the small letters f, b, x, and s on your letter board.-- Have you put the small letters f, b, x, and s on your letter board? If so, good. Point to the letters on your letter board and say their names.-- Good if you said f, b, x, and s.

LESSON XXXI

Slide	
Picture Tim Tim Board	1. This is Tim. Tim is the name of a boy. Names of people begin with a capital letter. The name Tim begins with a capital T. Spell the name Tim on your letter board.-- Have you spelled the name Tim on your letter board?
Board Tim	2. If so, good. What letter is the capital letter?-- Good if you said T. Point to your letters on your letter board and say their names.-- Good if you said capital T i m. Push the name Tim to the side of your letter board.-- Have you pushed the name Tim to the side of your letter board?
Picture Tam Board Tam	3. If so, good. This is Tam. Tam is the name of a cat. Names of animals begin with a capital letter. The name Tam begins with a capital T. Spell the name Tam on your letter board.-- Have you spelled the name Tam on your letter board?
Board Tam	4. If so, good. What letter is the capital letter?-- Good if you said T. Point to your letters on your letter board and say their names.-- Good if you said capital T a m. Push the name Tam to the side of your letter board.-- Have you pushed the name Tam to the side of your letter board?
Picture Ed Board Ed	5. If so, good. This is Ed. Ed is the name of a man. Names of people begin with a capital letter. The name Ed begins with a capital E. Spell the name Ed on your letter board.-- Have you spelled the name Ed on your letter board?
Board Ed	6. If so, good. What letter is the capital letter?-- Good if you said E. Point to your letters on your letter board and say their names.-- Good if you said capital E d. Push the name Ed to the side of your letter board.-- Have you pushed the name Ed to the side of your letter board?
Picture Ted Board Ted	7. If so, good. This is Ted. Ted is the name of a man. Names of people begin with a capital letter. The name Ted begins with a capital T. Spell the name Ted on your letter board.-- Have you spelled the name Ted on your letter board?

Slide		
Board Ted	8.	If so, good. What letter is the capital?-- Good if you said T. Point to your letters on your letter board and say their names.-- Good if you said capital T e d. Push the name Ted to the side of your letter board.-- Have you pushed the name Ted to the side of your letter board?
Picture Dot Board Dot	9.	If so, good. This is Dot. Dot is the name of a girl. Names of people begin with a capital letter. The name Dot begins with a capital D. Spell the name Dot on your letter board.-- Have you spelled the name Dot on your letter board?
Board Dot	10.	If so, good. What letter is the capital letter?-- Good if you said D. Point to your letters on your letter board and say their names.-- Good if you said capital D o t. Push the name Dot to the side of your letter board.-- Have you pushed the name Dot to the side of your letter board?
Picture Don Board Don	11.	If so, good. This is Don. Don is the name of a boy. Names of people begin with a capital letter. The name Don begins with a capital D. Spell the name Don on your letter board.-- Have you spelled the name Don on your letter board?
Board Don	12.	If so, good. What letter is the capital letter?-- Good if you said D. Point to your letters on your letter board and say their names.-- Good if you said capital D o n. Push the name Don to the side of your letter board.-- Have you pushed the name Don to the side of your letter board?
Picture Bob Board Bob	13.	If so, good. This is Bob. Bob is the name of a man. Names of people begin with a capital letter. The name Bob begins with a capital B. Spell the name Bob on your letter board.-- Have you spelled the name Bob on your letter board?
Board Bob	14.	If so, good. What letter is the capital letter?-- Good if you said B. Point to your letters on your letter board and say their names.-- Good if you said capital B o b. Push the name Bob to the side of your letter board.-- Have you pushed the name Bob to the side of your letter board?

Slide		
Picture Ben Board Ben	15.	If so, good. This is Ben. Ben is the name of a man. Names of people begin with a capital letter. The name Ben begins with a capital B. Spell the name Ben on your letter board.-- Have you spelled the name Ben on your letter board?
Board Ben	16.	If so, good. What letter is the capital letter?-- Good if you said B. Point to your letters on your letter board and say their names.-- Good if you said capital B e n. Push the name Ben to the side of your letter board.-- Have you pushed the name Ben to the side of your letter board?
Picture Pep Board Pep	17.	If so, good. This is Pep. Pep is the name of a dog. Names of animals begin with a capital letter. The name Pep begins with a capital P. Spell the name Pep on your letter board.-- Have you spelled the name Pep on your letter board?
Board Pep	18.	If so, good. What letter is the capital letter? -- Good if you said P. Point to your letters on your letter board and say their names.-- Good if you said capital P e p. Push the name Pep to the side of your letter board.-- Have you pushed the name Pep to the side of your letter board?
Picture Dot can hop Board Dot can hop	19.	If so, good. Read the words in the picture.-- Good if you read Dot can hop.
Picture A hot rat Board a hot rat	20.	Read the words in this picture.-- Good if you read a hot rat.
Picture A dot on a hen Board a dot on a hen	21.	Read the words in this picture.-- Good if you read a dot on a hen.
Picture A fat hen Board a fat hen	22.	Read the words in this picture.-- Good if you read a fat hen.

Slide		
Picture A bad cot Board a bad cot	23.	Read the words in this picture.-- Good if you read a bad cot.
Picture An ax Board an ax	24.	Read the words in this picture.-- Good if you read an ax.
Picture Ben can hit Bob Board Ben can hit Bob	25.	Read the words in this picture.-- Good if you read Ben can hit Bob.
Picture Men met Board men met	26.	Read the words in this picture.-- Good if you read men met.
Picture A pen Board a pen	27.	Read the words in this picture.-- Good if you read a pen.
Picture A fin Board a fin	28.	Read the words in this picture.-- Good if you read a fin.
Picture Six men Board six men	29.	Read the words in this picture.-- Good if you read six men.
Picture Pep ran Board Pep ran	30.	Read the words in this picture.-- Good if you read Pep ran.

APPENDIX C

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 7a(1)

STUDENT # 1

GROUP # 1

DATE BEGIN: 2/12/71

Continued ------>

DATE END: 5/4/71

SESSION #		3	4	5	6	7		14	15	16	17	18
P. O. T.										No C.C. Rewards 5 225.2 22.3		
		Feedback	No Feedback	Feedback	No Feedback	Feedback						
	N	5	5	5	5	5						
	$\bar{X}$	261.2	255.2	240	224.2	198.2						
	S	34.1	23.4	12.3	12.9	32.2						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. S.	T									5		
	FB									7.4		
	NFB									7.1		
		FB	NFB	FB	NFB	FB						
	N	5	5	5	5	5						
	$\bar{X}$	99.6	4.6	81	16.0	143.8						
	S	80.6	10.3	67.5	17.8	86.9						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. O.	T									5		
	FB									4.9		
	NFB									9.3		
		FB	NFB	FB	NFB	FB						
	N	5	5	5	5	5						
	$\bar{X}$	16.8	1.6	22.8	16.0	26.6						
	S	7.5	2.1	27.6	19.7	27.6						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. R.	T									5		
	FB									.52		
	NFB									.79		
		FB	NFB	FB	NFB	FB						
	N	5	5	5	5	5						
	$\bar{X}$	3.2	1.6	7	19.4	5.2						
	S	4.1	1.7	8.3	18.8	11.1						

*POT:Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1a(1)

STUDENT # 1

GROUP # 1

DATE BEGIN: 2/12/71 DATE END: 5/4/71

SESSION #		19 20 21 22 23	24 25 26 27 28	
P. O. T.	N $\overline{X}$ S	+C.C. Reward = 1¢ 5 294.3 14.9	No C.C. Rewards 5 199.8 45.9	

SESSION #		19 20 21 22 23	24 25 26 27 28	
F. O. S.	N $\overline{X}$ S	5 .04 .09	5 5.1 4.5	

SESSION #		19 20 21 22 23	24 25 26 27 28	
F. O. O.	N $\overline{X}$ S	5 0 0	5 7.5 8.7	

SESSION #		19 20 21 22 23	24 25 26 27 28	
F. O. R.	N $\overline{X}$ S	5 28.5 14.9	5 4.2 6.1	

*PCT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1a(2)

STUDENT # 1

GROUP # 1

DATE BEGIN: 5/5/71

DATE END: 6/2/71

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
P. O. T.	N $\bar{X}$ S	+C.C. Reward = 1¢ 5 262.2 71.8	No C.C. Reward 5 277.8 30.5	+C.C. Reward = 1¢ 5 204.9 147.4

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. S.	N $\bar{X}$ S	5 2.7 3.9	5 0 0	5 9.2 7.0

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. O.	N $\bar{X}$ S	5 3.3 3.5	5 1.8 2.5	5 6.2 8.6

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. R.	N $\bar{X}$ S	5 6.6 9.5	5 4.6 3.5	5 31.5 15.9

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 2a(1)

STUDENT # 2

GROUP # 1

DATE BEGIN: 2/12/71

Continued------->

DATE END: 5/4/71

SESSION #		3	4	5	6	7		14	15	16	17	18
P. O. T.	N $\bar{X}$ S							No C.C. Rewards 5 214.0 62.5				
		Feedback	No Feedback	Feedback	No Feedback	Feedback						
	N $\bar{X}$ S	5 205 39.2	5 113.8 18.9	5 200.8 31.3	5 80.0 34.1	5 188.2 28.3						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. S.	N $\bar{X}$ S							5 55.1 75.7				
		FB	NFB	FB	NFB	FB						
	N $\bar{X}$ S	5 6.8 7.5	5 5.2 2.6	5 30.0 12.1	5 12.0 7.3	5 32.2 16.6						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. O.	N $\bar{X}$ S							5 10.4 8.2				
		FB	NFB	FB	NFB	FB						
	N $\bar{X}$ S	5 12.4 8.1	5 14.2 5.4	5 11.6 4.7	5 21.8 16.8	5 27.0 8.4						

SESSION #		3	4	5	6	7		14	15	16	17	18
F. O. R.	N $\bar{X}$ S							5 3.8 3.8				
		FB	NFB	FB	NFB	FB						
	N $\bar{X}$ S	5 7.4 4.4	5 8.6 3.5	5 2.2 2.9	5 37.8 25.5	5 2.2 2.3						

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 2a(1)

STUDENT # 2

GROUP # 1

DATE BEGIN: 2-12-71

DATE END: 5-4-71

SESSION #		19	20	21	22	23	24	25	26	27	28	29							
		+ C.C. Reward = 1¢						No C.C. Reward											
P.	N	5						5											
	$\bar{X}$	326.4						260.1											
O.	S	8.2						40.9											
T.																			

SESSION #		19	20	21	22	23	24	25	26	27	28								
	N	5						5											
F.	$\bar{X}$	8.8						36.7											
	S	3.2						24.9											
O.																			
S.																			

SESSION #		19	20	21	22	23	24	25	26	27	28								
	N	5						5											
F.	$\bar{X}$	3.5						9.4											
	S	2.9						4.2											
O.																			
O.																			

SESSION#		19	20	21	22	23	24	25	26	27	28								
	N	5						5											
F.	$\bar{X}$	50.2						19.4											
	S	10.1						11.7											
O.																			
R.																			

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 2a(1)

STUDENT # 2

GROUP # 1

DATE BEGIN: 5/5/71

DATE END: 6/2/71

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
P. O. T.		+C.C. Reward = 1¢	No C.C. Reward	+C.C. Reward = 1¢
	N	5	5	5
	$\bar{X}$	330.6	269.4	217.3
	S	10.4	17.9	160.9

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. S.	N	5	5	5
	$\bar{X}$	45.2	9.3	55.5
	S	8.9	3.5	22.4

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. O.	N	5	5	5
	$\bar{X}$	25.1	8.9	49.1
	S	5.8	1.8	20.1

SESSION #		29 30 31 32 33	34 35 36 37 38	39 40 41 42 43
F. O. R.	N	5	5	5
	$\bar{X}$	28.4	13.7	40.6
	S	6.8	5.0	13.8

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FD: Feedback; NFB: No Feedback; R. Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1b(1)

STUDENT # 1

GROUP # 1

DATE BEGIN: 2/12/71

DATE END: 6/2/71

SESSION #	3	4	5	6	7								14----------43
P. O. T. vs. P. O. T.	Feedback No Feedback r = .11 N = 25												+C.C. Conditions=1¢ No C.C. Conditions r = .77 N = 30

SESSION #	3	4	5	6	7								14----------43
P. O. T. vs. F. O. S.	r = -.30 N = 25												r = .17 N = 30

SESSION #	3	4	5	6	7								14----------43
P. O. T. vs. F. O. O.	r = -.39 N = 25												r = -.37 N = 30

SESSION #	3	4	5	6	7								14----------43
P. O. T. vs. F. O. R.	r = .16 N = 25												r = -.14 N = 30

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 1b(2)

*STUDENT # 1

*GROUP # 1

*DATE BEGIN: 2/12/71

DATE END: 6/2/71

SESSION #	3	4	5	6	7							14- ---- ---- ---- ---- 43
F. O. S. vs. F. O. O.	Feedback No Feedback r = .72 N = 25											+C.C. Conditions=1¢ No C.C. Conditions r = .33 N = 30

SESSION #	3	4	5	6	7							14- ---- ---- ---- ---- 43
F. O. S. vs. F. O. R.	r = -.04 N = 25											r = .03 N = 30

SESSION #	3	4	5	6	7							14- ---- ---- ---- ---- 43
F. O. O. vs. F. O. R.	r = .12 N = 25											r = .02 N = 30

SESSION #	3	4	5	6	7							14- ---- ---- ---- ---- 43

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 2b(1)

STUDENT # 2

GROUP # 2

DATE BEGIN: 2/12/71

DATE END: 6/2/71

SESSION #	3 4 5 6 7		14------------------43
P.O.T. vs. P.O.T.	Feedback No Feedback r = .11 N = 25		+C.C. Condition=1¢ No C.C. Condition r = .77 N = 30

SESSION #	3 4 5 6 7		14------------------43
P.O.T. vs. F.O.S.	r = .38 N = 25		r = .03 N = 30

SESSION #	3 4 5 6 7		14------------------43
P.O.T. vs. F.O.O.	r = .29 N = 25		r = .01 N = 30

SESSION #	3 4 5 6 7		14------------------43
P.O.T. vs. F.O.R.	r = -.66 N = 25		r = .27 N = 30

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 2b(2)

STUDENT # 2

GROUP # 1

DATE END: 2/12/71

DATE END: 6/2/71

SESSION #	3	4	5	6	7							14------------43
F. O. S. vs. F. O. O.	Feedback No Feedback r = .08 N = 25											+C.C. Conditions=1¢ No C.C. Conditions r = .73 N = 30

SESSION #	3	4	5	6	7							14------------43
F. O. S. vs. F. O. R.	FB Conditions r = -.27 N = 25											+C.C. Conditions=1¢ r = -.04 N = 30

SESSION #	3	4	5	6	7							14------------43
F. O. O. vs. F. O. R.	FB Conditions r = .15 N = 25											+C.C. Conditions=1¢ r = .20 N = 30

SESSION #	3	4	5	6	7							14------------43

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3a(i)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

Continued -------->

DATE END: 8/3/71

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
P. O. T.		No C.C. Reward			+C.C. Reward = 10¢			+C.C. Reward = 10¢ R.Reward = 1¢		
		N		$\bar{X}$	N		$\bar{X}$	N		$\bar{X}$
	T	60		256.4	60		226.5	60		260.8
	FB	40		298.9	40		254.0	40		274.3
	NFB	20		171.2	20		171.4	20		233.7
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	326.4	171.2	271.5	225.7	171.4	282.3	278.6	233.7	270
	S	29.4	83.5	94.3	168.7	153.8	55.9	58.9	137.4	114.4

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. S.	T	60		39.2	60		39.2	60		48.7
	FB	40		50.8	40		53.1	40		63.4
	NFB	20		16.1	20		11.5	20		19.5
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	66.5	16.1	35.1	39.3	11.5	66.9	70.2	19.5	56.5
	S	54.2	24.7	33.9	41.2	16.5	42.4	34.3	25.6	30.5

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. O.	T	60		5.9	60		26.7	60		13.9
	FB	40		3.6	40		37.6	40		19.2
	NFB	20		10.6	20		5	20		3.2
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	3.9	10.6	3.15	62.3	5	12.9	16.9	3.2	21.5
	S	9.3	14.4	9.4	106.3	12.3	11.9	9.8	4.8	19.8

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. R.	T	60		5.2	60		3.1	60		8.1
	FB	40		3.6	40		3.5	40		4.9
	NFB	20		8.5	20		2.4	20		14.4
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	2.5	8.5	4.7	4.1	2.4	2.9	5.1	14.4	4.7
	S	5.4	12.0	15.3	7.7	5.4	4.7	10.5	21.3	5.9

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3a(1)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

DATE END· 8/3/71

SESSION #		20	21	22	23	24	25
P. O. T.		+C.C. Reward = 10¢					
		N					X̄
	T	60					202.4
	FB	40					238.4
	NFB	20					130.6
		Feedback		No Feedback		Feedback	
	N	20		20		20	
	X̄	278.8		130.6		197.9	
	S	116.3		127.3		120.7	

SESSION #		20	21	22	23	24	25
F. O. S.	T	60					21.4
	FB	40					27.2
	NFB	20					9.8
		CC Reward=10¢					
	N	20		20		20	
	X̄	34.8		9.8		19.5	
	S	32.9		14.8		26.3	

SESSION #		20	21	22	23	24	25
F. O. O.	T	60					9.2
	FB	40					12.9
	NFB	20					1.7
		CC Reward=10¢					
	N	20		20		20	
	X̄	7.1		1.7		18.8	
	S	8.3		3.3		25.8	

SESSION #		20	21	22	23	24	25
F. O. R.	T	60					7.5
	FB	40					9.8
	NFB	20					2.9
		CC Reward=10¢					
	N	20		20		20	
	X̄	4.8		2.9		14.8	
	S	11.5		8.5		23.4	

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3a(2)

STUDENT # 1

GROUP # 2

DATE BEGIN: 8/4/71 DATE END: 8/17/71

SESSION #		26	27	28	29	30	31	32	33	34
P. O. T.		R Reward = 1¢			R Reward = 1¢ -C.C. Reward = 10¢			R Reward = 1¢		
		N		X̄	N		X̄	N		X̄
	T	30		253.6	30		268.2	30		286.1
	FB	20		284.2	20		248.1	20		302.3
	NFB	10		192.6	10		308.4	10		263.9
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	10	10	10	10	10	10	10	10	10
	X̄	301.4	192.6	266.9	293.1	308.4	203	353.9	253.9	250.6
	S	75.7	142.1	133.7	94.2	43.7	124.8	55.0	57.6	65.8

SESSION #		26	27	28	29	30	31	32	33	34
F. O. S.	T	30		74.3	30		56.6	30		46.7
	FB	20		89.5	20		81.9	20		60.9
	NFB	10		43.8	10		6.2	10		18.5
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	82.1	43.8	96.9	75.5	6.2	88.2	62.3	18.5	59.4
	S	39.9	31.01	42.1	24.4	8.5	65.6	23.2	15.9	30.1

SESSION #		26	27	28	29	30	31	32	33	34
F. O. O.	T	30		33.46	30		25.1	30		15.6
	FB	20		38.35	20		35.5	20		22.9
	NFB	10		23.7	10		4.3	10		1.0
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	29.4	23.7	47.3	30.3	4.3	40.7	28.1	1.0	17.7
	S	31.0	21.1	36.7	19.8	5.1	28.7	13.9	2.8	18.1

SESSION #		26	27	28	29	30	31	32	33	34
F. O. R.	T	30		8.5	30		5.5	30		5.3
	FB	20		4.8	20		5.5	20		6.8
	NFB	10		15.9	10		5.4	10		2.4
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	2.5	15.9	7.1	6.8	5.4	4.3	9.9	2.4	3.7
	S	3.9	18.2	10.9	9.3	9.7	6.1	8.2	3.8	5.7

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3b(1)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

Continued-------->

DATE END: 8/3/71

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P. O. T. vs. P. O. T.		No C.C. Reward r = .18 N = 40 FB - Only						+C.C. Reward=10¢ r = -.55 N = 40 FB - Only						+C.C. Reward=10¢ R.Reward=1¢ r = .21 N = 40 FB - Only					

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P. O. T. vs. F. O. S.		r = .32 N = 40 FB - Only						r = .04 N = 40 FB - Only						r = .00 N = 40 FB - Only					

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P. O. T. vs. F. O. O.		r = -.03 N = 40 FB - Only						r = -.66 N = 40 FB - Only						r = -.07 N = 40 FB - Only					

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P. O. T. vs. F. O. R.		r = .09 N = 40 FB - Only						r = .07 N = 40 FB - Only						r = .08 N = 40 FB - Only					

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3b(1)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #	20	21	22	23	24	25												
P. O. T. vs. P. O. T.	+C.C. Reward=10¢ r = -.36 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
P. O. T. vs. F. O. S.	+C.C. Reward=10¢ r = -.15 N = 40																	

SESSION #																		
P. O. T. vs. F. O. O.	+ C.C. Reward=10¢ r = -.01 N = 40																	

SESSION #	20	21	22	23	24	25	26											
P. O. T. vs. F. O. R.	+ C.C. Reward = 10¢ r = .07 N = 40																	

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3b(2)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

Continued------->

DATE END: 8/3/71

SESSION #	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
F. O. S. vs. F. O. O.	No C.C. Reward r = -.14 N = 40 FB - Only						+C.C. Reward=10¢ r = -.19 N = 40 FB - Only						+C.C. Reward=10¢ R Reward=1¢ r = .35 N = 40 FB - Only					

SESSION #	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
F. O. S. vs. F. O. R.	r = -.14 N = 40 FB - Only						r = .35 N = 40 FB - Only						r = -.37 N = 40 FB - Only					

SESSION #	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
F. O. O. vs. F. O. R.	r = .28 N = 40 FB - Only						r = -.04 N = 40 FB - Only						r = -.30 N = 40 FB - Only					

SESSION #																		

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3b(2)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #	20	21	22	23	24	25												
F. O. S. vs. F. O. O.	+C.C. Reward=10¢ r = .63 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
F. O. S. vs. F. O. R.	r = .03 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
F. O. O. vs. F. O. R.	r = -.09 N = 40 FB - Only																	

SESSION #																		

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3c(1)

STUDENT # 1

GROUP # 2

Continued------->

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #		2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
		No C.C. Reward	+C.C. Reward=10¢	+C.C. Reward=10¢ R Reward=1¢
PT=1	R_1 .23	.3204	.6656	.0741
FS=2	R_2 .13	.3456	.2213	.3508
FO=3	R_3 .12	.1410	.6800	.3569

SESSION #		2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
PT=1	R_1 .23	.3475	.0714	.0860
FS=2	R_2 .13	.3619	.3502	.3710
FR=3	R_3 .12	.1992	.3544	.3785

SESSION #		2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
PT=1	R_1 .23	.1072	.6615	.0927
FO=2	R_2 .13	.2854	.6600	.3033
FR=3	R_3 .12	.2968	.0714	.3056

SESSION #		2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
			+C.C. Reward=10¢	
FS=1	R_1 .23	.1764	.3916	.4466
FO=2	R_2 .13	.2978	.1918	.3949
FR=3	R_3 .12	.2978	.3508	.4121

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 3c(1)

STUDENT # 1

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

Session #		20	21	22	23	24	25
		+C.C. Reward=10¢					
PT=1	R_1.23	.1854					
FS=2	R_2.13	.6462					
FO=3	R_3.12	.6357					

Session #		20	21	22	23	24	25
PT=1	R_1.23	.1673					
FS=2	R_2.13	.1552					
FR=3	R_3.12	.0806					

Session #		20	21	22	23	24	25
PT=1	R_1.23	.0692					
FO=2	R_2.13	.0894					
FR=3	R_3.12	.1131					

Session #		20	21	22	23	24	25
FS=1	R_1.23	.6359					
FO=2	R_2.13	.6392					
FR=3	R_3.12	.1431					

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4a(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

Continued------>

DATE END: 8/3/71

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
P. O. T.		No C.C. Reward			+C.C. Reward=10¢			+C.C. Reward=10¢ R Reward=1¢		
		N		$\overline{X}$	N		$\overline{X}$	N		
	T	60		155.2	60		138.8	60		258.4
	FB	40		172.5	40		158.6	40		288.2
	NFB	20		120.5	20		99.3	20		198.7
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	20	20	20	20	20	20	20	20	20
	$\overline{X}$	149.5	120.5	195.5	153.3	99.3	163.9	274.1	198.7	302.3
	S	73.2	89.1	80.1	115.2	89.4	108.3	38.5	117.7	12.3

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. S.	T	60		13.8	60		18.7	60		76.5
	FB	40		19.6	40		26.8	40		111.6
	NFB	20		2.3	20		2.7	20		6.2
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\overline{X}$	19.9	2.3	19.2	18.9	2.7	34.6	123.5	6.2	99.7
	S	17.4	3.5	12.5	17.3	7.5	38.4	32.9	7.1	31.0

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. O.	T	60		17.6	60		26.5	60		24.5
	FB	40		15.2	40		33.8	40		34.3
	NFB	20		22.5	20		11.9	20		4.8
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\overline{X}$	22.5	22.5	7.8	52.1	11.9	15.5	25.2	4.8	43.4
	S	20.3	34.5	13.2	51.1	17.5	10.1	16.6	8.5	26.4

SESSION #		2 3	4 5	6 7	8 9	10 11	12 13	14 15	16 17	18 19
F. O. R.	T	60		4.6	60		6.5	60		4.8
	FB	40		4.2	40		8.2	40		5.5
	NFB	20		15.4	20		3.0	20		3.5
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\overline{X}$	5.5	15.4	2.8	12.5	3.0	3.9	7.5	3.5	3.4
	S	17.4	30.3	3.6	25	5.8	4.8	5.7	4.9	3.7

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4a(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #		20	21	22	23	24	25
P. O. T.		+C.C. Reward=10¢					
		N				$\bar{X}$	
	T	60				202.8	
	FB	40				203.7	
	NFB	20				201.2	
		Feedback		No Feedback		Feedback	
	N	20		20		20	
	$\bar{X}$	193.5		201.2		213.8	
	S	140.9		90.1		79.2	

SESSION #		20	21	22	23	24	25
F. O. S.	T	60				87.2	
	FB	40				130.3	
	NFB	20				.95	
		FB		NFB		FB	
	N	20		20		20	
	$\bar{X}$	62.6		.95		197.9	
	S	54.4		2.1		120.7	

SESSION #		20	21	22	23	24	25
F. O. O.	T	60.				20.1	
	FB	40				29.4	
	NFB	20				1.6	
		FB		NFB		FB	
	N	20		20		20	
	$\bar{X}$	25.5		1.6		33.2	
	S	32.5		2.9		33.6	

SESSION #		20	21	22	23	24	25
F. O. R.	T	60				2.1	
	FB	40				2.7	
	NFB	20				.85	
		FB		NFB		FB	
	N	20		20		20	
	$\bar{X}$	1.2		.85		4.1	
	S	2.2		1.9		9.2	

400

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4a(2)

STUDENT # 3

GROUP # 2

DATE BEGIN: 8/4/71

DATE END: 8/17/71

SESSION #		26	27	28	29	30	31	32	33	34
P. O. T.		R Reward=1¢			R Reward=1¢ -C.C. Reward=10¢			R Reward=1¢		
		N		X̄	N		X̄	N		X̄
	T	30		330.2	30		267.1	30		292.7
	FB	20		328.1	20		267 8	20		310.3
	NFB	10		334.5	10		247.9	10		57.1
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	10	10	10	10	10	10	10	10	10
	X̄	307.7	334.5	348.5	311.2	247.9	242.3	341.4	257.5	279.2
	S	6.9	9.8	38.4	26.1	45.3	92.8	47.7	57.1	100.8

SESSION #		26	27	28	29	30	31	32	33	34
F. O. S.	T	30		89.5	30		44.9	30		69.5
	FB	20		98.8	20		64.3	20		94.9
	NFB	10		70.9	10		6.3	10		18.7
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	61.8	70.9	135.8	75.1	6.3	53.5	111.1	18.7	78.7
	S	28.8	27.7	44.6	44.7	11.0	37.4	60.8	33.2	44.5

SESSION #		26	27	28	29	30	31	32	33	34
F. O. O.	T	30		23.9	30		39.6	30		16.9
	FB	20		34.3	20		55.4	20		24.2
	NFB	10		3.2	10		8.2	10		2.5
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	44.6	3.2	23.9	59.9	8.2	50.8	25.4	2.5	23
	S	28.3	5.5	21.1	29.1	14.1	33.3	14.6	3.4	19.9

SESSION #		26	27	28	29	30	31	32	33	34
F. O. R.	T	30		2.8	30		6.2	30		1.3
	FB	20		1.7	20		3.7	20		1.4
	NFB	10		5.0	10		11.3	10		1.1
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	10	10	10	10	10	10	10	10	10
	X̄	2.2	5.0	1.2	1.8	11.3	5.6	1.6	1.1	1.2
	S	4.3	7.5	1.2	1.9	20.9	14.9	1.8	3.1	1.8

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4b(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

Continued------->

DATE END: 8/3/71

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
P. O. T. vs. P. O. T.	No C.C. Reward r =.18 N = 40 FB - Only	+C.C. Reward=10¢ r = -.55 N = 40 FB - Only	+C.C. Reward=10¢ R. Reward=1¢ r = .21 N = 40 FB - Only

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
P. O. T. vs. F. O. S.	r = .41 N = 40 FB Only	r = .68 N = 40 FB - Only	r = -.01 N = 40 FB - Only

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
P. O. T. vs. F. O. O.	r = .5 N = 40 FB - Only	r = -.49 N = 40 FB - Only	r = .13 N = 40 FB - Only

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
P. O. T. vs. F. O. R.	r = -.36 N = 40 FB - Only	r = -.08 N = 40 FB - Only	r = -.04 N = 40 FB - Only

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on eward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4b(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #	20	21	22	23	24	25												
P. O. T. vs. P. O. T.	+C.C. Reward=10¢ r = -.36 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
P. O. T. vs. F. O. S.	r = .64 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
P. O. T. vs. F. O. O.	r = .44 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
P. O. T. vs. F. O. R.	r = .02 N = 40 FB - Only																	

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4b(2)

*STUDENT # 3

GROUP # 2

Continued------->

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
F. O. S. vs. F. O. O.	No C.C. Reward r = -.34 N = 40 FB - Only	+C.C. Reward=10¢ r = -.26 N = 40 FB - Only	+C.C. Reward=10¢ R. Reward=1¢ r = -.38 N = 40 FB - Only

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
F. O. S. vs. F. O. R.	r = -.12 N = 40 FB - Only	r = -.03 N = 40 FB - Only	r = -.02 N = 40 FB - Only

SESSION #	2 3 4 5 6 7	8 9 10 11 12 13	14 15 16 17 18 19
F. O. O. vs. F. O. R.	r = .07 N = 40 FB - Only	r = .09 N = 40 FB - Only	r = .11 N = 40 FB - Only

SESSION #			

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4b(2)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #	20	21	22	23	24	25												
F. O. S. vs. F. O. O.	+C.C. Reward=10¢ r = 43 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
F. O. S. vs. F. O. R.	r = -.20 N = 40 FB - Only																	

SESSION #	20	21	22	23	24	25												
F. O. O. vs. F. O. R.	r = -.16 N = 40 FB - Only																	

SESSION #																		

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4c(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

Continued-------->

DATE END: 8/3/71

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		No C.C. Reward						+C.C. Reward=10¢						+C.C. Reward=10¢ R. Reward=1¢					
PT=1	R_1.23			.5613						.7533						.1367			
FS=2	R_2.13			.4386						.6852						.3819			
FO=3	R_3.12			.5214						.5000						.4003			

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PT=1	R_1.23			.5158						.6826						.0412			
FS=2	R_2.13			.4110						.6804						.0223			
FR=3	R_3.12			.3612						.0871						.0447			

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PT=1	R_1.23			.5967						.4913						.1410			
FO=2	R_2.13			.5137						.4926						.1737			
FR=3	R_3.12			.3817						.0986						.1228			

SESSION #		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
S=1	R_1.23			.3532						.2600						.3806			
FO=2	R_2.13			.3410						.2725						.3935			
FR=3	R_3.12			.1232						.0900						.1126			

T: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on ward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 4c(1)

STUDENT # 3

GROUP # 2

DATE BEGIN: 6/23/71

DATE END: 8/3/71

SESSION #		20	21	22	23	24	25
				+C.C. Reward=10¢			
PT=1	R_1.23			.6654			
FS=2	R_2.13			.6609			
FO=3	R_3.12			.4804			

SESSION #		20	21	22	23	24	25
PT=1	R_1.23			.6576			
FS=2	R_2.13			.6744			
FR=3	R_3.12			.2778			

SESSION #		20	21	22	23	24	25
PT=1	R_1.23			.4536			
FO=2	R_2.13			.4870			
FR=3	R_3.12			.2334			

SESSION #		20	21	22	23	24	25
FS=1	R_1.23			.4498			
FO=2	R_2.13			.4364			
FR=3	R_3.12			.2158			

T: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on
Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 5a(1)

STUDENT # 4

GROUP # 1

DATE BEGIN: 6/22/71

Continued------→

DATE END: 8/4/71

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
P. O. T.		No C.C. Reward			+C.C. Reward=10¢			No C.C. Reward		
	T	60		240	60		346.5	60		295.4
	FB	40		246.8	40		348.5	40		297.3
	NFB	20		226.4	20		342.7	20		291.7
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	235.4	226.4	258.2	334.7	342.7	362.2	304.5	291.7	290.1
	S	31.5	49.9	39.0	57.1	32.2	44.4	53.6	49.1	67.2

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
F. O. S.	T	60		21.2	60		5.7	60		15.3
	FB	40		28.4	40		8.6	40		21.8
	NFB	20		6.8	20		0	20		2.3
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	20.3	6.8	36.5	10.9	0	6.2	13.8	2.3	29.8
	S	16.9	11.3	23.0	12.9	0	8.2	19.1	5.8	17.6

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
F. O. O.	T	60		17.4	60		6.7	60		20.5
	FB	40		19.5	40		9.9	40		28.2
	NFB	20		13.4	20		.25	20		5.3
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	12.4	13.4	26.5	13.8	.25	5.9	19.4	5.3	36.9
	S	8.5	27.3	36.9	18.1	.71	7.4	18.5	6.8	27.5

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
F. O. R.	T	60		12.3	60		2.4	60		8.5
	FB	40		14.0	40		3.4	40		9.9
	NFB	20		8.8	20		.5	20		5.9
		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	$\bar{X}$	23.8	8.8	4.2	2.9	.5	3.8	9.4	5.9	10.3
	S	44.5	18.9	11.5	3.7	2.2	3.3	20.5	11.5	19.3

OT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 5a(1)

STUDENT # 4

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
		+C.C. Reward=10¢ Feedback			+C.C. Reward=10¢ No Feedback					
		N		X̄	N		X̄			
	T	60		397.1	60		304			
	FB	40		403.9	40		322.8			
P.	NFB	20		383.4	20		272.6			
O.										
T.										
	N	20	20	20	20	20	20			
	X̄	386.3	383.4	421.6	362.2	272.6	283.3			
	S	30.1	35.4	11.8	78.7	87.9	88.7			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
	T	60		11.7	60		1.5			
	FB	40		13.7	40		1.7			
F.	NFB	20		7.9	20		1.0			
O.										
S.	N	20	20	20	20	20	20			
	X̄	16.4	7.9	10.9	1.5	1.0	1.85			
	S	9.2	4.6	4.9	5.6	2.6	4.2			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
	T	60		17.5	60		9.1			
	FB	40		15.6	40		7.4			
F.	NFB	20		21.2	20		12.5			
O.										
O.	N	20	20	20	20	20	20			
	X̄	18.9	21.2	12.3	5.7	12.5	9.0			
	S	15.0	21.7	4.3	14.3	27.2	13.4			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
	T	60		2.1	60		7.6			
	FB	40		2.7	40		9.3			
F.	NFB	20		1.0	20		4.2			
O.		FB	NFB	FB	FB	NFB	FB			
R.	N	20	20	20	20	20	20			
	X̄	3.9	1.0	1.5	5.5	4.2	13.1	409		
	S	5.1	1.9	2.1	13.2	6.1	13.9			

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 5b(1)

STUDENT # 4

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. P. O. T.	No C.C. Rewards r = .17 N = 40 FB - Only						+C.C. Reward=1¢ r = .43 N = 40 FB - Only						No C.C. Reward r = .23 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. S.	r = -.12 N = 40 FB - Only						r = -.79 N = 40 FB - Only						r = -.55 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. O.	r = -.12 N = 40 FB - Only						r = -.78 N = 40 FB - Only						r = -.65 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. R.	r = -.37 N = 40 FB - Only						r = -.50 N = 40 FB - Only						r = -.50 N = 40 FB - Only					

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 5b(2)

STUDENT # 4

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. S. vs. F. O. O.		No C.C. Reward r = .06 N = 40 FB - Only						+C.C. Reward=1¢ r = .85 N = 40 FB - Only						No C.C. Reward r = .70 N = 40 FB - Only					

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. S. vs. F. O. R.		r = -.16 N = 40 FB - Only						r = .47 N = 40 FB - Only						r = .63 N = 40 FB - Only					

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. O. vs. F. O. R.		r = -.03 N = 40 FB - Only						r = .44 N = 40 FB - Only						r = .39 N = 40 FB - Only					

SESSION #																			

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C. Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 5c(1)

STUDENT # 4

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		1 2 3 4 5 6	7 8 9 10 11 12	13 14 15 16 17 18
		No C.C. Reward	+C.C. Reward=1¢	No C.C. Reward
PT=1	R_1 .23	.1643	.8162	.6633
FS=2	R_2 .13	.1280	.8737	.7109
FO=3	R_3 .12	.1280	.8681	.7684

SESSION #		1 2 3 4 5 6	7 8 9 10 11 12	13 14 15 16 17 18
PT=1	R_1 .23	.4120	.8032	.5842
FS=2	R_2 .13	.2503	.7946	.6858
FR=3	R_3 .12	.4233	.5143	.6561

SESSION #		1 2 3 4 5 6	7 8 9 10 11 12	13 14 15 16 17 18
PT=1	R_1 .23	.3924	.7992	.7028
FS=2	R_2 .13	.1438	.7821	.6542
FR=3	R_3 .12	.3773	.5062	.5070

SESSION #		1 2 3 4 5 6	7 8 9 10 11 12	13 14 15 16 17 18
FS=1	R_1 .23	.1977	.8566	.8001
FO=2	R_2 .13	.0632	.8511	.7029
FR=3	R_3 .12	.1910	.4760	.6339

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 6a(1)

STUDENT # 5

GROUP # 3

Continued------>

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
		No C. C. Reward			+C.C. Reward=10¢			No C.C. Reward		
		N		X̄	N		X̄	N		X̄
	T	60		326.9	60		376.5	60		362.2
	FB	40		318.6	40		375.0	40		363.4
	NFB	20		343.8	20		379.4	20		360.0
P. O. T.		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback
	N	20	20	20	20	20	20	20	20	20
	X̄	311.3	343.8	325.8	372.4	379.4	377.6	372.2	360.0	354.5
	S	32.9	17.9	10.2	12.9	7.9	15.9	16.2	11.2	33.8

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
	T	60		3.7	60		3.9	60		4.5
	FB	40		5.5	40		5.9	40		6.6
	NFB	20		.25	20		0	20		4
F. O. S.		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	X̄	3.1	.25	7.8	7.6	0	4.2	5.7	.4	7.5
	S	2.9	.71	3.5	3.9	0	2.4	2.9	1.3	8.1

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
	T	60		1.3	60		5.9	60		5.1
	FB	40		1.9	40		5.8	40		7.5
	NFB	20		.1	20		.15	20		35
F. O. O.		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	X̄	2.3	.05	1.6	7.2	.15	4.4	6.4	.35	8.5
	S	3.6	.22	2.2	3.2	.48	2.7	2.7	.98	12.0

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16	17 18
	T	60		.1	60		.8	60		.15
	FB	40		.1	40		1.3	40		.7
	NFB	20		0	20		0	20		.1
F. O. R.		FB	NFB	FB	FB	NFB	FB	FB	NFB	FB
	N	20	20	20	20	20	20	20	20	20
	X̄	.25	0	0	1.4	0	1.1	.45	.1	1.0
	S	.78	0	0	1.6	0	1.3	1.1	.4	2.5

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 6a(1)

STUDENT # 5

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
P. O. T.		+C.C. Reward=10¢ Feedback			+C.C. Reward=10¢ No Feedback					
		N		$\bar{X}$	N		$\bar{X}$			
	T	60		399	60		318.1			
	FB	40		403.8	40		340.9			
	NFB	20		391.5	20		272.5			
		Feedback	No Feedback	Feedback	Feedback	No Feedback	Feedback			
	N	20	20	20	20	20	20			
	$\bar{X}$	404.4	391.5	403.2	393.2	272.5	288.7			
	S	7.2	14.4	13.7	10.9	78.3	65.4			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
F. O. S.	T	60		6.4	60		.12			
	FB	40		6.1	40		0			
	NFB	20		7.0	20		.35			
		FB	NFB	FB	FB	NFB	FB			
	N	20	20	20	20	20	20			
	$\bar{X}$	7.0	7.0	5.1	0	.35	0			
	S	2.7	3.3	2.3	0	.18	0			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
F. O. O.	T	60		8.5	60		.27			
	FB	40		7.7	40		.3			
	NFB	20		10.1	20		.2			
		FB	NFB	FB	FB	NFB	FB			
	N	20	20	20	20	20	20			
	$\bar{X}$	8.4	10.1	6.9	.2	.2	.4			
	S	2.9	4.1	2.9	.4	.6	.9			

SESSION #		19 20	21 22	23 24	25 26	27 28	29 30			
F. O. R.	T	60		.3	60		.6			
	FB	40		.4	40		.9			
	NFB	20		0	20		.1			
		FB	NFB	FB	FB	NFB	FB			
	N	20	20	20	20	20	20			
	$\bar{X}$	.75	0	0	.6	.1	1.2			
	S	1.77	0	0	.9	.4	1.1			

POT Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 6b(1)

STUDENT # 5

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. P. O. T.	No C.C. Reward r = .17 N = 40 FB - Only						+C.C. Reward=10¢ r = .43 N = 40 FB - Only						No C.C. Reward r = .23 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. S.	r = .05 N = 40 FB - Only						r = -.26 N = 40 FB - Only						r = .05 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. O.	r = -.46 N = 40 FB - Only						r = -.10 N = 40 FB - Only						r = -.27 N = 40 FB - Only					

SESSION #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P. O. T. vs. F. O. R.	r = .00 N = 40 FB - Only						r = -.03 N = 40 FB - Only						r = -.53 N = 40 FB - Only					

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback: NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 6b(2)

STUDENT # 5

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. S. vs. F. O. O.		No C.C. Reward r = .30 N = 40 FB - Only						+C.C. Reward=1¢ r = .85 N = 40 FB - Only						No C.C. Reward r = .57 N = 40 FB - Only					

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. S. vs. F. O. R.		r = -.15 N = 40 FB - Only						r = -.19 N = 40 FB - Only						r = .05 N = 40 FB - Only					

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F. O. O. vs. F. O. R.		r = .06 N = 40 FB - Only						r = -.06 N = 40 FB - Only						r = .06 N = 40 FB - Only					

SESSION #																			

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 6c(1)

STUDENT # 5

GROUP # 3

DATE BEGIN: 6/22/71

DATE END: 8/4/71

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
					No C.C. Reward					+C.C. Reward=1¢						No C.C. Reward			
PT=1	R_1.23				.5003					.3468						.3666			
FS=2	R_2.13				.3671					.8679						.6050			
FO=3	R_3.12				.5622					.8591						.6435			

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PT=1	R_1.23				.05					.2722						.5354			
FS=2	R_2.13				.1581					.3266						.1004			
FR=3	R_3.12				.1500					.2071						.5354			

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PT=1	R_1.23				.4607					.1063						.5812			
FO=2	R_2.13				.4638					.1183						.2870			
FR=3	R_3.12				.0670					.0700						.5369			

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
FS=1	R_1.23				.3439					.8612						.5701			
FO=2	R_2.13				.3181					.8562						.5708			
FR=3	R_3.12				.1860					.2703						.0624			

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: RAtio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 7a

STUDENT # 6

GROUP # 4

DATE BEGIN: 7/26/71

DATE END: 8/11/71

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12						
		+C.C. Reward=10¢						+C.C. Reward=10¢ R Reward=1¢											
	T	60					173.1	30				195.3							
P.	FB	40					139.4	20				153.6							
O.	NFB	20					240.7	10				237.0							
T.		Feedback		Feedback		No Feedback		Feedback		Feedback									
	N	20		20		20		20		20									
	$\overline{X}$	152.2		249.7		126.5		153.6		23.7									
	S	50.2		73.5		94.1		95.1		39.9									

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12						
	T	60					41.9	30				86.1							
	FB	40					47.1	20				56.6							
F.	NFB	20					31.7	10				115.6							
O.		a		b		a		a		b		a							
S.	N	20		20		20		20		10									
	$\overline{X}$	84.8		31.7		9.3		56.6		115.6									
	S	42.4		30.6		12.6		36.2		35.0									

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12						
	T	60					32.2	30				22.2							
F.	FB	40					36.9	20				23.7							
O.	NFB	20					22.6	10				20.6							
O.		FB		NFB		FB		FB		FB									
	N	20		20		20		20		10									
	$\overline{X}$	66.3		22.6		7.6		23.7		20.6									
	S	44.3		28.3		11.5		33.5		13.1									

SESSION #		1	2	3	4	5	6	7	8	9	10	11	12						
	T	60					71.3	30				14.0							
	FB	40					86.2	20				21.4							
F.	NFB	20					41.5	10				6.6							
O.		FB		NFB		FB		FB		FB									
R.	N	20		20		20		20		10									
	$\overline{X}$	114.2		41.5		58.2		21.4		6.6									
	S	10.5		68.4		74.8		27.3		5.8		418							

POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R. Reward: Ratio Reward

SOCIAL BEHAVIOR DATA ANALYSIS

FORM NO. 8a

STUDENT # 7

GROUP # 4

DATE BEGIN: 7/26/71

DATE END: 8/11/71

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12			
P. O. T.		+C.C. Reward=10¢			+C.C. Reward=10¢ R Reward-1¢					
		N		X̄	N		X̄			
	T	60		168.1	30		59.4			
	FB	40		126.0	20		93.9			
	NFB	20		252.3	10		24.8			
		Feedback	Feedback	No Feedback	Feedback	Feedback				
	N	20	20	20	20	10				
	X̄	172.1	252.3	79.9	93.9	24.8				
	S	77.7	92.3	82.5	79.8	41.8				

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12			
F. O. S.	T	60		26.9	30		29.6			
	FB	40		28.1	20		12.9			
	NFB	20		24.7	10		46.3			
		FB	FB	NFB	FB	FB				
	N	20	20	20	20	10				
	X̄	55.4	24.7	.85	12.9	46.3				
	S	61.5	17.0	1.7	9.7	17.8				

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12			
F. O. O.	T	60		24.7	60		36.8			
	FB	40		23.9	40		28.9			
	NFB	20		26.2	20		44.6			
		FB	FB	NFB	FB	FB				
	N	20	20	20	20	10				
	X̄	37.8	26.2	10.1	28.9	44.6				
	S	32.4	21.8	20.1	21.8	19.8				

SESSION #		1 2	3 4	5 6	7 8	9 10	11 12			
F. O. R.	T	60		19.1	60		10.8			
	FB	40		25.6	40		10.1			
	NFB	20		6.0	20		11.5			
		FB	FB	NFB	FB	FB				
	N	20	20	20	20	10				
	X̄	44.5	6.0	6.7	10.1	11.5				
	S	58.7	3.5	14.4	16.3	17.0				

*POT: Performance on Task; FOS: Feedback on Self; FOO: Feedback on Other; FOR: Feedback on Reward; C.C.: Competitive Contingent; FB: Feedback; NFB: No Feedback; R.Reward: Ratio Reward

SUMMARY RESULT FORMS
FOR SOCIAL BEHAVIOR ANALYSIS
FORMS 1-19

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
1a (1)	1	3-7	(a) FEEDBACK (b) NO FEEDBACK (a) FEEDBACK	1.	P.O.T. (Performance on Task) was not a function of feedback.
				2.	F.O.S. (Feedback on Self) was a positive function of feedback.
				3.	F.O.O. (Feedback on Other) was a positive function of feedback.
				4.	F.O.R. (Feedback on Reward) was not a function of feedback.
		14-28	(A) NO COMPETITIVE CONTINGENT REWARD (B) COMPETITIVE CONTINGENT REWARD (A) NO COMPETITIVE CONTINGENT REWARD	5.	P.O.T. was a positive function of the competitive contingent reward.
				6.	F.O.S. was a positive function of the competitive contingent reward.
				7.	F.O.O. was a positive function of the competitive contingent reward.
				8.	F.O.R. was a positive function of the competitive contingent reward.
1a (2)		29-43	(A) COMPETITIVE CONTINGENT REWARD (B) NO COMPETITIVE CONTINGENT REWARD (A) COMPETITIVE CONTINGENT REWARD	9.	P.O.T. was a negative function of the competitive contingent reward.
				10.	F.O.S. was a positive function of the competitive contingent reward.
				11.	F.O.O. was a positive function of the competitive contingent reward.
				12.	F.O.R. was a positive function of the competitve contingent reward.
2a (1)	2	3-7	(a) FEEDBACK (b) NO FEEDBACK (a) FEEDBACK	13.	P.O.T. was a positive funtion of feedback.
				14.	F.O.S. was a positive function of feedback.
				15.	F.O.O. was a positive function of feedback.
				16.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
2a (1)	2	14-28	(A) NO COMPETITIVE CONTINGENT REWARD (B) COMPETITIVE CONTINGENT REWARD = 1¢ (A) NO COMPETITIVE CONTINGENT REWARD	17. 18. 19. 20.	P.O.T. was a positive function of the competitive contingent reward. F.O.S. was a negative function of the competitive contingent reward. F.O.O. was a negative funtion of the competitive contingent reward. F.O.R. was a positive function of the competitive contingent reward.
		29-43	(A) COMPETITIVE CONTINGENT REWARD = 1¢ (B) NO COMPETITIVE CONTINGENT REWARD (A) COMPETITIVE CONTINGENT REWARD = 1¢	21. 22. 23. 24.	P.O.T. was not a function of the competive contingent reward. F.O.S. was a positive function of the competitive contingent reward. F.O.O. was a positive function of the competitive contingent reward. F.O.R. was a positive function of the competitive contingent reward.
3a (1)	1	8-25	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts= 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	25. 26. 27. 28.	P.O.T. was a positive function of the ratio reward. F.O.S. was a positive function of the ratio reward. F.O.O. was not a function of the ratio reward. F.O.R. was not a function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
3a (1)	1	8-13	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	29.	P.O.T was a positive function of feedback.
				30.	F.O.S. was a positive function of feedback.
				31.	F.O.O. was a positive function of feedback.
				32.	F.O.R. was not a function of feedback.
		14-19	(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	33.	P.O.T. was a positive function of feedback.
				34.	F.O.S. was a positive function of feedback.
				35.	F.O.O. was a positive function of feedback.
				36.	F.O.R. was a negative function of feedback.
		20-25	(A) COMPETITIVE CONTINGENT REWARD= 10¢ (a) Feedback (b) No Feedback (a) Feedback	37.	P.O.T. was a positive function of feedback.
				38.	F.O.S. was a positive function of feedback.
				39.	F.O.O. was a positive function of feedback.
				40.	F.O.R. was a positive function of feedback.
3a (2)		26-34	(A) RATIO REWARD 100 pts = 1¢ (B) RATIO REWARD 100 pts = 1¢ + NEGATIVE COMPETITIVE CONTINGENT REWARD= 10¢ (A) RATIO REWARD 100 pts = 1¢	41.	P.O.T. was not a function of the negative competitive contingent reward.
				42.	F.O.S. was not a function of the negative competitive contingent reward.
				43.	F.O.O. was not a function of the negative competitive contingent reward.
				44.	F.O.R. was not a function of the negative competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
3a (2)	1	26-28	(A) RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	45. 46. 47. 48.	P.O.T. was a positive function of feedback. F.O.S. wa a positive function of feedback. F.O.O. was a positive function of feedback. F.O.R. was a negative functive of feedback.
		29-31	(B) RATIO REWARD 100 pts = 1¢ + NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	49. 50. 51. 52.	P.O.T. was a negative function of feedback. F.O.S. was a positive function of feedback. F.O.O. was a positive funtion of feedback. F.O.R. was not a function of feedback.
		32-34	(A) RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	53. 54. 55. 56.	P.O.T. was not a function of feedback. F.O.S. was a positive function of feedback. F.O.O. was a positive function of feedback. F.O.R. was a positive function of feedback.
4a (1)	3	8-25	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	57. 58. 59. 60.	P.O.T. was a positive function of the ratio reward. F.O.S. was not a function of the ratio reward. F.O.O. was not a function of the ratio reward. F.O.R. was not a function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
4a(1)	3	8-13	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	61.	P.O.T. was a positive function of feedback.
				62.	F.O.S. was a positive function of feedback.
				63.	F.O.O. was a positive function of feedback.
				64.	F.O.R. was not a function of feedback.
		14-19	(B) COMPETITIVE CONTINGENT REWARD= 10¢ + RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	65.	P.O.T. was a positive function of feedback.
				66.	F.O.S. was a positive function of feedback.
				67.	F.O.O. was a positive function of feedback.
				68.	F.O.R. was not a function of feedback.
		20-25	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	69.	P.O.T. was not a function of feedback.
				70.	F.O.S. was a positive function of feedback.
				71.	F.O.O. was a positive function of feedback.
				72.	F.O.R. was a positive function of feedback.
4a (2)		26-34	(A) RATIO REWARD 100 pts = 1¢ (B) RATIO REWARD 100 pts = 1¢ + NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ (A) RATIO REWARD 100 pts = 1¢	73.	P.O.T. was a negative function of the negative competitive contingent reward.
				74.	F.O.S. was a negative function of the negative competitive contingent reward.
				75.	F.O.O. was a positive function of the negative competitive contingent reward.
				76.	F.O.R. was a positive function of the negative competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
4a(2)	3	26-28	(A) RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	77.	P.O.T. was not a function of feedback.
				78.	F.O.S. was not a function of feedback.
				79.	F.O.O. was a positive function of feedback.
				80.	F.O.R. was a negative function of feedback
		29-31	(B) RATIO REWARD 100 pts = 1¢ + NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	81.	P.O.T. was not a function of feedback.
				82.	P.O.S. was a positive function of feedback.
				83.	F.O.O. was a positive function of feedback.
				84.	F.O.R. was a negative function of feedback.
		32-34	(A) RATIO REWARD 100 pts = 1¢ (a) Feedback (b) No Feedback (a) Feedback	85.	P.O.T. was a positive function of feedback.
				86.	F.O.S. was a positive function of feedback.
				87.	F.O.O. was a positive function of feedback.
				88.	F.O.R. was not a function of feedback.
5a(1)	4	1-18	(A) NO COMPETITIVE CONTINGENT REWARD (B) COMPETITIVE CONTINGENT REWARD = 10¢ (A) NO COMPETITIVE CONTINGENT REWARD	89.	P.O.T. was a positive function of the competitive contingent reward.
				90.	F.O.S. was a negative function of the competitive contingent reward.
				91.	F.O.O. was a negative function of the competitive contingent reward.
				92.	F.O.R. was a negative function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
5a(1)	4	1-6	(A) NO COMPETITIVE CONTINGENT REWARD (a) Feedback (b) No Feedback (a) Feedback	93.	P.O.T. was a positive function of feedback.
				94.	F.O.S. was a positive function of feedback.
				95.	F.O.O. was not a function of feedback.
				96.	F.O.R. was not a function of feedback.
		7-12	(B) COMPETITIVE CONTINGENT REWARD = 10¢ (a) Feedback (b) No Feedback (a) Feedback	97.	P.O.T. was not a function of feedback.
				98.	F.O.S. was a positive function of feedback.
				99.	F.O.O. was a positive function of feedback
				100.	F.O.R. was a positive function of feedback.
		13-18	(A) NO COMPETITIVE CONTINGENT REWARD (a) Feedback (b) No Feedback (a) Feedback	101.	P.O.T. was not a function of feedback.
				102.	F.O.S. was a positive function of feedback.
				103.	F.O.O. was a positive function of feedback.
				104.	F.O.R. was a positive function of feedback.
		19-24	COMPETITIVE CONTINGENT REWARD = 10¢ + FEEDBACK ON ALL COUNTERS (a) Feedback on Reward Counter (b) No Feedback on Reward Counter (a) Feedback On Reward Counter	105.	P.O.T. was not a function of feedback on reward counter.
				106.	F.O.S. was a positive function of feedback on reward counte
				107.	F.O.O. was a negative function of feedback on reward counter.
				108.	F.O.R. was not a function of feedback on reward counter.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
5a(1)	4	25-30	COMPETITIVE CONTINGENT REWARD = 10¢ + NO FEEDBACK ON ALL COUNTERS (a) Feedback on Reward Counter (b) No Feedback on Reward Counter (a) Feedback on Reward Counter	109.	P.O.T. was not a function of feedback on the reward counter.
				110.	F.O.S. was a positive function of feedback on the reward counter.
				111.	F.O.O. was a negative function of feedback on the reward counter.
				112.	F.O.R. was a positive function of feedback on the reward counter.
6a(1)	5	1-18	(A) NO COMPETITIVE CONTINGENT REWARD (B) COMPETITIVE CONTINGENT REWARD = 10¢ (A) NO COMPETITIVE CONTINGENT REWARD	113.	P.O.T. was a positive function of the competitive contingent reward.
				114.	F.O.S. was not a function of the competitive contingent reward.
				115.	F.O.O. was not a function of the competitive contingent reward.
				116.	F.O.R. was a positive function of the competitive contingent reward.
		1-6	(A) NO COMPETITIVE CONTINGENT REWARD (a) Feedback (b) No Feedback (a) Feedback	117.	P.O.T. was a negative function of feedback.
				118.	F.O.S. was a positive function of feedback.
				119.	F.O.O. was a positive function of feedback.
				120.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
6a(1)	5	7-12	(B) COMPETITIVE CONTINGENT REWARD = 10¢ (a) FEEDBACK (b) NO FEEDBACK (a) FEEDBACK	121.	P.O.T. was not a function of feedback.
				122.	F.O.S. was a positive function of feedback.
				123.	F.O.O. was a positive function of feedback.
				124.	F.O.R. was a positive function of feedback.
		13-18	(A) NO COMPETITIVE CONTINGENT REWARD (a) Feedback (b) No Feedback (a) Feedback	125.	P.O.T. was not a function of feedback.
				126.	F.O.S. was a positive function of feedback.
				127.	F.O.O. was a positive function of feedback.
				128.	F.O.R. was a positive function of feedback.
		19-24	COMPETITIVE CONTINGENT REWARD = 10¢ + FEEDBACK ON ALL COUNTERS (a) Feedback on Reward Counter (b) No Feedback on Reward Counter (a) Feedback on Reward Counter	129.	P.O.T. was a positive function of feedback on the reward counter.
				130.	F.O.S. was not a function of feedback on the reward counter.
				131.	F.O.O. was a negative function of feedback on the reward counter.
				132.	F.O.R. was not a function of feedback on the reward counter.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
6a(1)	5	25→30	COMPETITIVE CONTINGENT REWARD = 10¢ + NO FEEDBACK ON ALL COUNTERS (a) Feedback on Reward Counter (b) No Feedback on Reward Counter (a) Feedback on Reward Counter	133.	P.O.T. was a positive function of feedback on the reward counter.
				134.	F.O.S. was not a function of feedback on the reward counter.
				135.	F.O.O. was not a function of feedback on the reward counter.
				136.	F.O.R. was not a function of feedback on the reward counter.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
3b(1)	1	8-25	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	137.	The correlation between S1's P.O.T. and S3's P.O.T. was a positive function of the ratio reward.
				138.	The correlation between P.O.T. and F.O.S. was not a function of the ratio reward.
				139.	The correlation between P.O.T. and F.O.O. was not a function of the ratio reward.
				140.	The correlation between P.O.T. and F.O.R. was not a function of the ratio reward.
				141.	The correlation between F.O.S. and F.O.O. was not a function of the ratio reward.
				142.	The correlation between F.O.S. and F.O.R. was negative function of the ratio reward.
				143.	The correlation between F.O.O. and F.O.R. was a negative function of the ratio reward.
3c(1)				144.	The multiple correlation between P.O.T. and F.O.S.- F.O.O. was not a function of the ratio reward.
				145.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was not a function of the ratio reward.
				146.	The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a negative function of the ratio reward.
				147.	The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the ratio reward.
				148.	The multiple correlation between F.O.S. and P.O.T. - F.O.R. was not a function of the ratio reward.
				149.	The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the ratio reward.
				150.	The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the ratio reward.
				151.	The multiple correlation between F.O.O. and P.O.T. - F.O.R. was not a function of the ratio reward.
				152.	The multiple correlation between F.O.R. and P.O.T. - F.O.O. was a positive function of the ratio reward.
				153.	The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the ratio reward.
				154.	The multiple correlation between F.O.O. and F.O.S. - F.O.R. was not a function of the ratio reward.
				155.	The multiple correlation between F.O.R. and F.O.S. - F.O.O. was a positive function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
4b(1)	3	8-25	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	156.	The correlation between S3's P.O.T. and s1's P.O.T. was a positive function of the ratio reward.
				157.	The correlation between P.O.T. and F.O.S. was a negative function of the ratio reward.
				158.	The correlation between P.O.T. and F.O.O. was not a functio of the ratio reward.
				159.	The correlation between P.O.T. and F.O.R. was not a functio of the ratio reward.
4b(2)				160.	The correlation between F.O.S. and F.O.O. was a negative function of the ratio reward.
				161.	The correlation between F.O.S. and F.O.R. was not a functio of the ratio reward.
				162.	The correlation between F.O.O. and F.O.R. was not a function of the ratio reward.
4c(1)				163.	The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a negative function of the ratio reward.
				164.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the ratio reward.
				165.	The multiple correlation between F.O.O. and P.O.T. - F.O.O. was a negative function of the ratio reward.
				166.	The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a negative function of the ratio reward.
				167.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the ratio reward.
				168.	The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the ratio reward.
				169.	The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a negative function of the ratio reward.
				170.	The multiple correaltion between F.O.O. and P.O.T. - F.O.R. was a negative function of the ratio reward.
				171.	The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the ratio reward.
				172.	The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the ratio reward.
				173.	The multiple correlation between F.O.O. and F.O.S. - F.O.R. was not a function of the ratio reward.
				174.	The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
5b(1)	4	1-18	(A) NO COMPETITIVE CONTINGENT REWARDS	175.	The correlation between S4's P.O.T. and S5's P.O.T. was a positive function of the competitive contingent reward.
				176.	The correlation between P.O.T. and F.O.S. was a negative function of the competitive contingent reward.
			(B) COMPETITIVE CONTINGENT REWARD = 1¢	177.	The correlation between P.O.T. and F.O.O. was a negative function of the competitive contingent reward.
				178.	The correlation between P.O.T. and F.O.R. was not a function of the competitive contingent reward.
			(A) NO COMPETITIVE CONTINGENT REWARDS	179.	The correlation between F.O.S. and F.O.O. was a positive function of the competitive contingent reward.
				180.	The correlation between F.O.S. and F.O.R. was not a function of the competitive contingent reward.
				181.	The correlation between F.O.O. and F.O.R. was not a function of the competitive contingent reward.
5c(1)				182.	The multiple correlation between P.O.T. and F.O.S. - F.O.O. was a positive function of the competitive contingent reward.
				183.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a positive function of the competitive contingent reward.
				184.	The multiple correlation between F.O.O. and P.O.T. - F.O.O. was a positive function of the competitive contingent reward.
				185.	The multiple correlation between P.O.T. and F.O.S. - F.O.R. was a positive function of the competitive contingent reward.
				186.	The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the competitive contingent reward.
				187.	The multiple correlation between F.O.R. and P.O.T - F.O.S. was not a function of the competitive contingent reward.
				188.	The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the competitive contingent reward.
				189.	The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a positive function of the competitive contingent reward.
				190.	The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
5c(1)	4	1-18	(A) NO COMPETITIVE CONTINGENT REWARDS (B) COMPETITIVE CONTINGENT REWARD = 1¢ (A) NO COMPETITIVE CONTINGENT REWARDS	191.	The multiple correlation between F.O.S. and F.O.O. - F.O.R. was not a function of the competitive contingent reward.
				192.	The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a positive function of the competitive contingent reward.
				193.	The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the competitive contingent reward.
6b(1)	5			194.	The correlation between S5's P.O.T. and S4's P.O.T. was a positive function of the competitive contingent reward.
				195.	The correlation between P.O.T. and F.O.S. was a negative function of the competitive contingent reward.
				196.	The correlation between P.O.T. and F.O.O. was a positive function of the competitive contingent reward.
				197.	The correlation between P.O.T. and F.O.R. was not a function of the competitive contingent reward.
				198.	The correlation between F.O.S. and F.O.O. was a positive function of the competitive contingent reward.
				199.	The correlation between F.O.S. and F.O.R. was not a function of the competitive contingent reward.
				200.	The correlation between F.O.O. and F.O.R. was not a function of the competitive contingent reward.
6c(1)				201.	The multiple correlation between P.O.T. and F.O.S. - F.O.O. was not a function of the competitive contingent reward.
				202.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a positive function of the competitive contingent reward.
				203.	The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a positive function of the competitive contingent reward.
				204.	The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the competitive contingent reward.
				205.	The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the competitive contingent reward.
				206.	The multiple correlation between F.O.R. and P.O.T. - F.O.S. was not a function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
				207.	The multiple correlation between P.O.T. and F.O.O. - F.O.R. was a negative function of the competitive contingent reward.
6c(1)	5	1-18	(A) NO COMPETITIVE CONTINGENT REWARDS (B) COMPETITIVE CONTINGENT REWARD = 1¢ (A) NO COMPETITIVE CONTINGENT REWARDS	208.	The multiple correlation between F.O.O. and P.O.T. - F.O.R. was a negative function of the competitive contingent reward.
				209.	The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the competitive contingent reward.
				210.	The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a positive function of the competitive contingent reward.
				211.	The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a positive function of the competitive contingent reward.
				212.	The multiple correlation between F.O.R. and F.O.S. - F.O.O. was a positive function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
9a	6	3-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	213. 214. 215. 216.	P.O.T. was a positive function of the ratio reward. F.O.S. was not a function of the ratio reward. F.O.O. was not a function of the ratio reward. F.O.R. was not a function of the ratio reward.
		3-8	(A) COMPETITIVE CONTINGENT REWARD = 10¢	217. 218. 219. 220.	P.O.T. was a positive function of feedback. F.O.S. was not a function of feedback. F.O.O. was not a function of feedback. F.O.R. was a negative function of feedback.
		10-15	(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	221. 222. 223. 224.	P.O.T. was a positive function of feedback. F.O.S. was a positive function of feedback. F.O.O. was a positive function of feedback. F.O.R. was a positive function of feedback.
		16-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢	225. 226. 227. 228.	P.O.T. was not a function of feedback. F.O.S. was a positive function of feedback. F.O.O. was a positive function of feedback. F.O.R. was a negative function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
10a	7	3-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	229.	P.O.T. was a positive function of the ratio reward.
				230.	F.O.S. was a positive function of the ratio reward.
				231.	F.O.O. was a positive function of the ratio reward.
				232.	F.O.R. was a negative function of the ratio reward.
		3-8	(A) COMPETITIVE CONTINGENT REWARD = 10¢	233.	P.O.T. was a positive function of feedback.
				234.	F.O.S. was not a function of feedback.
				235.	F.O.O. was not a function of feedback.
				236.	F.O.R. was not a function of feedback.
		10-15	(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	237.	P.O.T. was not a function of feedback.
				238.	F.O.S. was a positive function of feedback.
				239.	F.O.O. was a positive function of feedback.
				240.	F.O.R. was a negative function of feedback.
		16-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢	241.	P.O.T. was not a function of feedback.
				242.	F.O.S. was a positive function of feedback.
				243.	F.O.O. was a positive function of feedback.
				244.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
11a	6	16-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	245.	P.O.T. was a positive function of the ratio reward and reduced competitive contingent reward.
				246.	F.O.S. was a positive function of the ratio reward and reduced competitive contingent reward.
				247.	F.O.O. was a positive function of the ratio reward and reduced competitive contingent reward.
				248.	F.O.R. was a negative function of the ratio reward and reduced competitive contingent reward.
		16-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢	249.	P.O.T. was not a function of feedback.
				250.	F.O.S. was a positive function of feedback.
				251.	F.O.O. was a positive function of feedback.
				252.	F.O.R. was a negative function of feedback.
		22-27	(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	253.	P.O.T. was not a function of feedback.
				254.	F.O.S. was a positive function of feedback.
				255.	F.O.O. was a positive function of feedback.
				256.	F.O.R. was not a function of feedback.
		28-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢	257.	P.O.T. was not a function of feedback.
				258.	F.O.S. was a positive function of feedback.
				259.	F.O.O. was a positive function of feedback.
				260.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
12a	7	16-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	261.	P.O.T. was a positive function of the ratio reward and reduced competitive contingent reward.
				262.	F.O.S. was a positive function of the ratio reward and reduced competitive contingent reward.
				263.	F.O.O. was not a function of the ratio reward and reduced competitive contingent reward.
				264.	F.O.R. was a negative function of the ratio reward and reduced competitive contingent reward.
		16-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢	265.	P.O.T. was not a function of feedback.
				266.	F.O.S. was a positive function of feedback.
				267.	F.O.O. was a positive function of feedback.
				268.	F.O.R. was not a function of feedback.
		22-27	(B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	269.	P.O.T. was not a function of feedback.
				270.	F.O.S. was a positive function of feedback.
				271.	F.O.O. was a positive function of feedback.
				272.	F.O.R. was not a function of feedback.
		28-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢	273.	P.O.T. was not a function of feedback.
				274.	F.O.S. was a positive function of feedback.
				275.	F.O.O. was a positive function of feedback.
				276.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
13a	3	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	277.	P.O.T. was a negative function of the negative competitive contingent reward.
				278.	F.O.S. was not a function of the negative competitive contingent reward.
				279.	F.O.O. was not a function of the negative competitive contingent reward.
				280.	F.O.R. was a positive function of the negative competitive contingent reward.
		35-40	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	281.	P.O.T. was not a function of feedback.
				282.	F.O.S. was a positive function of feedback.
				283.	F.O.O. was a positive function of feedback.
				284.	F.O.R. was not a function of feedback.
		41-46	(B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	285.	P.O.T. was a positive function of feedback.
				286.	F.O.S. was a positive function of feedback.
				287.	F.O.O. was not a function of feedback.
				288.	F.O.R. was a positive function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
13a	3	47-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	289.	P.O.T. was not a function of feedback.
				290.	F.O.S. was a positive function of feedback.
				291.	F.O.O. was a positive function of feedback.
				292.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
14a	1	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	293.	P.O.T. was a negative function of the negative competitive contingent reward.
				294.	F.O.S. was not a function of the negative competitive contingent reward.
				295.	F.O.O. was not a function of the negative competitive contingent reward.
				296.	F.O.R. was a positive function of the negative competitive contingent reward.
		35-40	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. - 1¢	297.	P.O.T. was not a function of feedback.
				298.	F.O.S. was a positive function of feedback.
				299.	F.O.O. was a positive function of feedback.
				300.	F.O.R. was not a function of feedback.
		41-46	(B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	301.	P.O.T. was not a function of feedback.
				302.	F.O.S. was a positive function of feedback.
				303.	F.O.O. was a positive function of feedback.
				304.	F.O.R. was a negative function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
14a	1	47-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢	305.	P.O.T. was a positive function of feedback.
				306.	F.O.S. was a positive function of feedback.
				307.	F.O.O. was positive function of feedback.
				308.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
15a	3	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢	309.	P.O.T. was a positive function of the increased competitive contingent reward.
				310.	F.O.S. was a positive function of the increased competitive contingent reward.
				311.	F.O.O. was a positive function of the increased competitive contingent reward.
				312.	F.O.R. was not a function of the increased competitive contingent reward.
16a	1	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢	313.	P.O.T. was a negative function of the increased competitive contingent reward.
				314.	F.O.S. was a negative function of the increased competitive contingent reward.
				315.	F.O.O. was a positive function of the increased competitive contingent reward.
				316.	F.O.R. was not a function of the increased competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
17a	8	1-18	(A) RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (A) RATIO REWARD 100 pts. = 1¢	317.	P.O.T. was not a function of the competitive contingent reward.
				318.	F.O.S. was not a function of the competitive contingent reward.
				319.	F.O.O. was not a function of the competitive contingent reward.
				320.	F.O.R. was not a function of the competitive contingent reward.
		1-6	(A) RATIO REWARD 100 pts. = 1¢	321.	P.O.T. was a positive function of feedback.
				322.	F.O.S. was a positive function of feedback.
				323.	F.O.O. was a positive function of feedback.
				324.	F.O.R. was not a function of feedback.
		7-12	(B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢	325.	P.O.T. was not a function of feedback.
				326.	F.O.S. was a positive function of feedback.
				327.	F.O.O. was a positive function of feedback.
				328.	F.O.R. was not a function of feedback.
		13-18	(A) RATIO REWARD 100 pts. = 1¢	329.	P.O.T. was a positive function of feedback.
				330.	F.O.S. was a positive function of feedback.
				331.	F.O.O. was a positive function of feedback.
				332.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
18a	9	1-18	(A) RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (A) RATIO REWARD 100 pts. = 1¢	333.	P.O.T. was a positive function of the competitive contingent reward.
				334.	F.O.S. was not a function of the competitive contingent reward.
				335.	F.O.O. was not a function of the competitive contingent reward.
				336.	F.O.R. was not a function of the competitive contingent reward.
		1-6	(A) RATIO REWARD 100 pts. = 1¢	337.	P.O.T. was a positive function of feedback.
				338.	F.O.S. was a positive function of feedback.
				339.	F.O.O. was a positive function of feedback.
				340.	F.O.R. was not a function of feedback.
		7-12	(B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢	341.	P.O.T. was a positive function of feedback.
				342.	F.O.S. was a positive function of feedback.
				343.	F.O.O. was a positive function of feedback.
				344.	F.O.R. was not a function of feedback.
		13-18	(A) RATIO REWARD 100 pts. = 1¢	345.	P.O.T. was not a function of feedback.
				346.	F.O.S. was a positive function of feedback.
				347.	F.O.O. was a positive function of feedback.
				348.	F.O.R. was not a function of feedback.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
19	6,7,9,10	3-10	(A) EQUAL TASK ACHIEVEMENT CONTINGENCIES INTERDEPENDENT TASK # 1	349.	Task achievement rate for interdependent task #1 was a positive function of reward magnitude during the differential task achievement contingency.
			100 pts. = 1¢ INTERDEPENDENT TASK # 2 100 pts. = 1¢	350.	Task achievement rate for interdependent task # 2 was a positive function of reward magnitude during the differential task achievement contingency.
			INTERDEPENDENT TASK # 3 100 pts. = 1¢ (B) DIFFERENTIAL TASK ACHIEVEMENT CONTINGENCIES INTERDEPENDENT TASK # 1 100 pts. = 1¢ INTERDEPENDENT TASK # 2 400 pts. = 1¢ INTERDEPENDENT TASK # 3 800 pts. = 1¢ (A) EQUAL TASK ACHIEVEMENT CONTINGENCIES INTERDEPENDENT TASK # 1 100 pts. = 1¢ INTERDEPENDENT TASK # 2 100 pts. = 1¢ INTERDEPENDENT TASK # 3 100 pts. = 1¢	351.	Task achievement rate for interdependent task #3 was a positive function of reward magnitude during the differential task achievement contingency.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
19	6,7,9,10	13-18	(A) DIFFERENTIAL TASK ACHIEVEMENT CONTINGENCIES INTERDEPENDENT TASK # 1 800 pts. = 1¢	352.	Task achievement rate for interdependent task # 1 was a positive function of the reward magnitude during the differential task achievement contingencies.
			INTERDEPENDENT TASK # 2 400 pts. = 1¢	353.	Task achievement rate for interdependent task #2 was a positive function of the reward magnitude during the differential task achievement contingencies.
			INTERDEPENDENT TASK # 3 100 pts. = 1¢ (B) EQUAL TASK ACHIEVEMENT CONTINGENCIES INTERDEPENDENT TASK # 1 100 pts. = 1¢ INTERDEPENDENT TASK # 2 100 pts. = 1¢ INTERDEPENDENT TASK # 3 100 pts. = 1¢ (A) DIFFERENTIAL TASK ACHIEVEMENT CONTINGENCY INTERDEPENDENT TASK # 1 800 pts. = 1¢ INTERDEPENDENT TASK # 2 100 pts. = 1¢ INTERDEPENDENT TASK # 3 400 pts. = 1¢	354.	Task achievement rate for interdependent task #2 was a positive function of the reward magnitude during the differential task achievement contingencies.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
9b(1)	6	3-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts. = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	355.	The correlation between S6's P.O.T. and S7's P.O.T. was a negative function of the ratio reward.
				356.	The correlation between P.O.T. and F.O.S. was a negative function of the ratio reward.
				357.	The correlation between P.O.T. and F.O.O. was not a function of the ratio reward.
				358.	The correlation between P.O.T. and F.O.R. was not a function of the ratio reward.
9b(2)				359.	The correlation between F.O.S. and F.O.O. was a negative function of the ratio reward.
				360.	The correlation between F.O.S. and F.O.R. was not a function of the ratio reward.
				361.	The correlation between F.O.O. and F.O.R. was not a function of the ratio reward.
9c				362.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was a negative function of the ratio reward.
				363.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was a negative function of the ratio reward.
				364.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was a negative function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
9c	6	3-21	(A) COMPETITIVE CONTINGENT Reward = 10¢	365.	The multiple correlation between P.O.T. and F.O.S.- F.O.R. was a negative function of the ratio reward.
			(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	366.	The multiple correlation between F.O.S. and P.O.T.-F.O.R. was a negative function of the ratio reward.
				367.	The multiple correlation between F.O.R. and P.O.T-F.O.S. was a negative function of the ratio reward.
			(A) COMPETITIVE CONTINGENT REWARD = 10¢	368.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was a negative function of the ratio reward.
				369.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was a negative function of the ratio reward.
				370.	The multiple correlation between F.O.R. and P.O.T.-F.O.O. was a negative function of the ratio reward.
				371.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was a negative function of the ratio reward.
				372.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the ratio reward.
				373.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was a negative function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
10b (1)	7	3-21	(A) COMPETITIVE CONTINGENT REWARD = 10¢	374.	The correlation between S7's P.O.T. and S6's P.O.T. was a negative function of the ratio reward.
			(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	375.	The correlation between P.O.T. and F.O.S. was not a function of the ratio reward.
				376.	The correlation between P.O.T. and F.O.O. was not a function of the ratio reward.
			(A) COMPETITIVE CONTINGENT REWARD = 10¢	377.	The correlation between P.O.T. and F.O.R. was a positive function of the ratio reward.
10b (2)				378.	The correlation between F.O.S. and F.O.O. was not a function of the ratio reward.
				379.	The correlation between F.O.S. and F.O.R. was not a function of the ratio reward.
				380.	The correlation between F.O.O. and F.O.R. was a negative function of the ratio reward.
10c				381.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was not a function of the ratio reward.
				382.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was not a function of the ratio reward.
				383.	The multiple correlation between F.O.O. and P.O.T-F.O.S. was not a function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
10c	7	3-21	(A) COMPETITIVE CONTINGENT REWARD= 10¢	384.	The multiple correlation between P.0.T. and F.0.S.-F.0.R. was not a function of the ratio reward.
			(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	385.	The multiple correlation between F.0.S. and P.0.T.-F.0.R. was not a function of the ratio reward.
				386.	The multiple correlation between F.0.R. and P.0.T-F.0.S. was not a function of the ratio reward.
			(A) COMPETITIVE CONTINGENT REWARD = 10¢	387.	The multiple correlation between P.0.T. and F.0.S.-F.0.R. was a negative function of the ratio reward.
				388.	The multiple correlation between F.0.0. and P.0.T-F.0.R. was a negative function of the ratio reward.
				389.	The multiple correlation between F.0.R. and P.0.T-F.0.[illegible] was not a function of the ratio reward.
				390.	The multiple correlation between F.0.S. and F.0.0-F.0.R. was not a function of the ratio reward.
				391.	The multiple correlation between F.0.O. and F.0.S-F.0.R. was not a function of the ratio reward.
				392.	The multiple correlation between F.0.R. and F.0.S-F.0.0. was not a function of the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
11b (1)	6	16-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD= 10¢	393.	The correlation between S6's P.O.T. and S7's P.O.T. was a positive function of the reduced C.C. reward and the ratio reward.
				394.	The correlation between P.O.T. and F.O.S. was not a function of the reduced C.C. reward and the ratio reward.
				395.	The correlation between P.O.T. and F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				396.	The correlation between P.O.T. and F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
11b(2)				397.	The correlation between F.O.S. and F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				398.	The correlation between F.O.S. and F.O.R was a negative function of the reduced C.C. reward and the ratio reward.
				399.	The correlation between F.O.O. and F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
11c				400.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				401.	The multiple correlation between F.O.S. and P.O.T-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				402.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was not a function of the reduced C.C. reward and the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
11c	6	16-33	(A) COMPETITIVE CONTINGENT REWARD= 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	403.	The multiple correlation between P.O.T. and F.O.S.-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				404.	The multiple correlation between F.O.S. and P.O.T-F.O.R was not a functionof the reduced C.C. reward and the ratio reward.
				405.	The multiple correlation between F.O.R. and P.O.T-F.O.S. was not a function of the reduced C.C. reward and the ratio reward.
				406.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				407.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				408.	The multiple correlation between F.O.R. and P.O.T-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				409.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				410.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				411.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
12b (1)	7	16-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	412.	The correlation between S7's P.O.T. and S6's P.O.T. was a positive function of the reduced C.C. reward and the ratio reward.
				413.	The correlation between P.O.T. and F.O.S. was a negative function of the reduced C.C. reward and the ratio reward.
				414.	The correlation between P.O.T. and F.O.O. was a negative function of the reduced C.C. reward and the ratio reward.
				415.	The correlation between P.O.T. and F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
12b (2)				416.	The correlation between F.O.S. and F.O.O. was a negative function of the reduced C.C. reward and the ratio reward.
				417.	The correlation between F.O.S. and F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				418.	The correlation between F.O.O. and F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
12c				419.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was a negative function of the reduced C.C. reward and the ratio reward.
				420.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				421.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was not a function of the reduced C.C. reward and the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
12c	7	16-33	(A) COMPETITIVE CONTINGENT REWARD = 10¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢	422.	The multiple correlation between P.O.T. and F.O.S-F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				423.	The multiple correlation between F.O.S. and P.O.T.-F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				424.	The multiple ocrrelation between F.O.R. and P.O.T.-F.O.S was not a function of the reduced C.C. reward and the ratio reward.
				425.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				426.	The multiple correlation between F.O.O. and P.O.T-F.O.R. was a negative function of the reduced C.C. reward and the ratio reward.
				427.	The multiple correlation between F.O.R. and P.O.T-F.O.O. was not a function of the reduced C.C. reward and the ratio reward.
				428.	The multiple correlation between F.O.S. and F.O.O-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				429.	The multiple correlation between F.O.O. and F.O.S-F.O.R. was not a function of the reduced C.C. reward and the ratio reward.
				430.	The multiple correlation between F.O.R. and F.O.S-F.O.O was a positive function of the reduced C.C. reward and the ratio reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
13b (1)	3	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	431.	The correlation between S3's P.O.T. and S1's P.O.T. was a positive function of the negative competitive contingent reward.
				432.	The correlation between P.O.T. and F.O.S. was a positive funtion of the negative competitive contingent reward.
				433.	The correlation between P.O.T. and F.O.O. was a negative function of the negative competitive contingent reward.
				434.	The correlation between P.O.T. and F.O.R. was not a function of the negative competitive contingent reward.
13b (2)				435.	The correlation between F.O.S. and F.O.O. was a negative function of the negative competitive contingent reward.
				436.	The correlation between F.O.S. and F.O.R. was a negative function of the negative competitive contingent reward.
				437.	The correlation between F.O.O. and F.O.R. was a positive function of the negative competitive contingent reward.
13c				438.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was a positive function of the negative competitive contingent reward.
				439.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was a positive function of the negative competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
13c	3	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	440.	The multiple correlation between F.O.O. and P.O.T.-F.O.S was not a function of the negative competitive contingent reward.
				441.	The multiple correlation between P.O.T. and F.O.S-F.O.R. was a positive function of the negative competitive contingent reward.
			(B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	442.	The multiple correlation between F.O.S. and P.O.T-F.O.R. was a positive function of the negative competitive contingent reward.
				443.	The multiple correlation between F.O.R. and P.O.T.-F.O.S. was not a function of the negative competitive contingent reward.
			(A) COMPETITIVE CONTINGENT REWARD = 10¢	444.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was not a function of the negative competitive contingent reward.
				445.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was not a function of the negative competitive contingent reward.
				446.	The multiple correlation between F.O.R. and P.O.T.-F.O.O. was not a function of the negative competitive contingent reward.
				447.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was not a function of the negative competitive contingent reward.
				448.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the negative competitive contingent reward.
				449.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was not a function of the negative competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
14b (1)	1	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	450.	The correlation between S1's P.O.T. and S3's P.O.T. was a positive function of the negative competitive contingent reward.
				451.	The correlation between P.O.T. and F.O.S. was not a function of the negative competitive contingent reward.
				452.	The correlation between P.O.T. and F.O.O. was not a function of the negative competitive contingent reward.
				453.	The correlation between P.O.T. and F.O.R. was not a function of the negative competitive contingent reward.
14b (2)				454.	The correlation between F.O.S. and F.O.O. was not a function of the negative competitive contingent reward.
				455.	The correlation between F.O.S. and F.O.R. was not a function of the negative competitive contingent reward.
				456.	The correlation between F.O.O. and F.O.R. was not a function of the negative competitive contingent reward.
14c				457.	The multiple correlation between P.O.T. and F.O.S-F.O.O. was not a function of the negative competitive contingent reward.
				458.	The multiple correlation between F.O.S. and P.O.T.-F.O.O. was not a function of the negative

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
14c				459.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was not a function of the negative competitive contingent reward.
14c	1	35-52	(A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (B) NEGATIVE COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1 ¢	460.	The multiple correlation between P.O.T. and F.O.S.-F.O.R. was not a function of the negative competitive contingent reward.
				461.	The multiple correlation between F.O.S. and P.O.T.-F.O.R. was not a function of the negative competitive contingent reward.
				462.	The multiple correlation between F.O.R. and P.O.T.-F.O.S. was not a function of the negative competitive contingent reward.
				463.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was not a function of the negative competitive contingent reward.
				464.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was not a function of the negative competitive contingent reward.
				465.	The multiple correlation between F.O.R. and P.O.T-F.O.O. was not a function of the negative competitive contingent reward.
				466.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was not a function of the negative competitive contingent reward.
				467.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the negative competitive contingent reward.
				468.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was not a function of the negative competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
15b (1)	3	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	469.	The correlation between S3's P.O.T. and S1's P.O.T. was a positive function of the increased C.C. reward.
				470.	The correlation between P.O.T. and F.O.S. was not a function of the increased C.C. reward.
				471.	The correlation between P.O.T. and F.O.O. was not a function of the increased C.C. reward
				472.	The correlation between P.O.T. and F.O.R. was a positive function of the increased C.C. reward.
15b (2)				473.	The correlation between F.O.S. and F.O.O. was a negative function of the increased C.C. reward.
				474.	The correlation between F.O.S. and F.O.R. was a positive function of the increased C.C. reward.
				475.	The correlation between F.O.O. and F.O.R. was not a function of the increased C.C. reward.
15c				476.	The multiple correlation between P.O.T. and F.O.S-F.O.O. was a negative function of the increased C.C. reward.
				477.	The multiple correlation between F.O.S. and P.O.T-F.O.O. was not a function of the increased C.C. reward.
				478.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was a negative function of the increased C.C. reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
15c	3	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	479.	The multiple correlation between P.O.T. and F.O.S.-F.O.R. was not a function of the increased C.C. reward.
				480.	The multiple correlation between F.O.S. and P.O.T-F.O.R. was not a function of the increased C.C. reward.
			(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	481.	The multiple correlation between F.O.R. and P.O.T.-F.O.S. was a positive function of the increased C.C. reward.
				482.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was a negative function of the increased C.C. reward.
			(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts + 1¢	483.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was a negative function of the increased C.C. reward.
				484.	The multiple correlation between F.O.R. and P.O.T.-F.O.O. was not a function of the increased C.C. reward.
				485.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was a positive function of the increased C.C. reward.
				486.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the increased C.C. reward.
				487.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was a positive function of the increased C.C. reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
16b (1)	1	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢ (A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	488.	The correlation between S1's P.O.T. and S3's P.O.T. was a positive function of the increased C.C. reward.
				489.	The correlation between P.O.T. and F.O.S. was a negative function of the increased C.C. reward.
				490.	The correlation between P.O.T. and F.O.O. was a positive function of the increased C.C. reward.
				491.	The correlation between P.O.T. and F.O.R. was not a function of the increased C.C. reward.
16b (2)				492.	The correlation between F.O.S. and F.O.O. was a positive function of the increased C.C. reward.
				493.	The correlation between F.O.S. and F.O.R. was not a function of the increased C.C. reward.
				494.	The correlation between F.O.O. and F.O.R. was not a function of the increased C.C. reward.
16c				495.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was a negative function of the increased C.C. reward.
				496.	The multiple correlation between F.O.S. and P.O.T-F.O.O. was not a function of the increased C.C. reward.
				497.	The multiple correlation between F.O.O. and P.O.T-F.O.S. was not a function of the increased C.C. reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
16c	1	60-65	(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	498.	The multiple correlation between P.O.T. and F.O.S.-F.O.R. was a negative function of the increased C.C. reward.
				499.	The multiple correlation between F.O.S. and P.O.T-F.O.R. was not a function of the increased C.C. reward.
			(B) COMPETITIVE CONTINGENT REWARD = 10¢ + RATIO REWARD 100 pts = 1¢	500.	The multiple correlation between F.O.R. and P.O.T-F.O.S. was not a function of the increased C.C. reward.
				501.	The multiple correlation between P.O.T. and F.O.O.-F.O.R. was a negative function of the increased C.C. reward.
			(A) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢	502.	The multiple correlation between F.O.O. and P.O.T.-F.O.R was a negative function of the increased C.C. reward.
				503.	The multiple correlation between F.O.R. and P.O.T.-F.O.O. was not a function of the increased C.C. reward.
				504.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was a positive function of the increased C.C. reward.
				505.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was not a function of the increased C.C. reward.
				506.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was not a function of the increased C.C. reward

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
17b (1)	8	1-18	(A) RATIO REWARD 100 pts = 1¢ (B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts = 1¢ (A) RATIO REWARD 100 pts = 1¢	507.	The correlation between S8's P.O.T. and S9's P.O.T. was a positive function of the competitive contingent reward.
				508.	The correlation between P.O.T. and F.O.S. was not a function of the competitive contingent reward.
				509.	The correlation between P.O.T. and F.O.O. was not a function of the competitive contingent reward.
				510.	The correlation between P.O.T. and F.O.R. was not a function of the competitive contingent reward.
17b (2)				511.	The correlation between F.O.S. and F.O.O. was not a function of the competitive contingent reward.
				515.	The correlation between F.O.S. and F.O.R. was a positive function of the competitive contingent reward.
				513.	The correlation between F.O.O. and F.O.R. was not a function of the competitive contingent reward.
17c				514.	The multiple correlation between P.O.T. and F.O.S.-F.O.O. was not a function of the competitive contingent reward.
				515.	The multiple correlation between F.O.S. and P.O.T-F.O.O. was a negative function of the competitive contingent reward.
				516.	The multiple correlation between F.O.O. and P.O.T.-F.O.S. was a negative function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
17c	8	1-18	(A) RATIO REWARD 100 pts = 1¢	517.	The multiple correlation between P.O.T. and F.O.S.-F.O.R. was not a function of the competitive contingent reward.
			(B) COMPETITIVE CONTINGENT REWARD = 1¢ + RATIO REWARD 100 pts =1¢	518.	The multiple correlation between F.O.S. and P.O.T.-F.O.R. was not a function of the competitive contingent reward.
			(A) RATIO REWARD 100 pts = 1¢	519.	The multiple correlation between F.O.R. and P.O.T.-F.O.S was a negative function of the competitive contingent reward.
				520.	The multiple correlation between P.O.T. and F.O.O -F.O.R. was not a function of the competitive contingent reward.
				521.	The multiple correlation between F.O.O. and P.O.T.-F.O.R. was not a function of the competitive contingent reward.
				522.	The multiple correlation between F.O.R. and P.O.T-F.O.O. was a negative function of the competitive contingent reward.
				523.	The multiple correlation between F.O.S. and F.O.O.-F.O.R. was a negative function of the competitive contingent reward.
				524.	The multiple correlation between F.O.O. and F.O.S.-F.O.R. was a negative function of the competitive contingent reward.
				525.	The multiple correlation between F.O.R. and F.O.S.-F.O.O. was not a function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
18b(1)	9	1-18	(A) RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT REWARD - 1¢ + RATIO REWARD 100 pts. = 1¢ (A) RATIO REWARD 100 pts. = 1¢	526.	The correlation between S9's P.O.T. and S8's P.O.T. was a positive function of the competitive contingent reward.
				527.	The correlation between P.O.T. and F.O.S. was not a function of the competitive contingent reward.
				528.	The correlation between P.O.T. and F.O.O. was not a function of the competitive contingent reward.
				529.	The correlation between P.O.T. and F.O.R. was not a function of the competitive contingent reward.
18b(2)				530.	The correlation between F.O.S. and F.O.O. was a negative function of the competitive contingent reward.
				531.	The correlation between F.O.S. and F.O.R. was a negative function of the competitive contingent reward.
				532.	The correlation between F.O.O. and F.O.R. was not a function of the competitive contingent reward.
18c				533.	The multiple correlation between P.O.T. and F.O.S. - F.O.O. was not a function of the competitive contingent reward.
				534.	The multiple correlation between F.O.S. and P.O.T. - F.O.O. was a negative function of the competitive contingent reward.
				535.	The multiple correlation between F.O.O. and P.O.T. - F.O.S. was a negative function of the competitive contingent reward.

FORM #	SUBJECT #	SESSION #	CONDITION CHANGES	RESULT #	RESULTS
18c	9	1-18	(A) RATIO REWARD 100 pts. = 1¢ (B) COMPETITIVE CONTINGENT - REWARD = 1¢ + RATIO REWARD 100 pts. = 1¢ (A) RATIO REWARD 100 pts. = 1¢	536.	The multiple correlation between P.O.T. and F.O.S. - F.O.R. was not a function of the competitive contingent reward.
				537.	The multiple correlation between F.O.S. and P.O.T. - F.O.R. was a positive function of the competitive contingent reward.
				538.	The multiple correlation between F.O.R. and P.O.T. - F.O.S. was a positive function of the competitive contingent reward.
				539.	The multiple correlation between P.O.T. and F.O.O. - F.O.R. was not a function of the competitive contingent reward.
				540.	The multiple correlation between F.O.O. and P.O.T. - F.O.R. was not a function of the competitive contingent reward.
				541.	The multiple correlation between F.O.R. and P.O.T. - F.O.O. was not a function of the competitive contingent reward.
				542.	The multiple correlation between F.O.S. and F.O.O. - F.O.R. was a negative function of the competitive contingent reward.
				543.	The multiple correlation between F.O.O. and F.O.S. - F.O.R. was a negative function of the competitive contingent reward.
				544.	The multiple correlation between F.O.R. and F.O.S. - F.O.O. was not a function of the competitive contingent reward.